

# GLENDALE ELEMENTARY SCHOOL DISTRICT #40 SOLICITATION AMENDMENT #2

# IFB #20.03.20 Sunset Vista Weatherization

Amendment Date: July 3, 2019

**IFB Due Date:** July 10, 2019 Time: 12:00 PM MST

This solicitation is amended as listed below. All other provisions of the solicitation shall remain in their entirety. A signed copy of this single page Amendment shall be received by the District on the Solicitation due date and time – July 10, 2019 at 12:00 PM. Vendors must also acknowledge receipt of this Amendment by signing page 30, Amendment #2 of the Solicitation.

Please note the following changes regarding the above solicitation:

- 1. Refer to attached SPS+ Architects Addendum No. 2
- 2. Sign-in sheet attached from meeting held on Monday, July 1, 2019.

# Vendor hereby acknowledges receipt and understanding of the above amendment:

Authorized Representative Signature	Date	
Printed Name and Title		
Name of Company		

Due: 07/10/2019 12:00PM MST Page 1

PRE-BID MEETING ATTENDANCE SHEET
GLENDALE ELEMENTARY SCHOOL DISTRICT #40 – SUNSET VISTA WEATHERIZATION SPS + ARCHITECTS PROJECT NO. Project #1875

SUNSET VISTA ELEMENTARY SCHOOL, 7775 W ORANGEWOOD AVE, GLENDALE, AZ 85303 DATE: 06/25/19 8:00am

7-01-2019 8:30am

Michael Root NAME SPST SE 80 COMPANY 002818914 6022141138 623. 237.6201 623-238-1119 PHONE 4814-881 richerd michael, respolus architects, com DANTICIM OF GESTAU. OVA 8 0 200019 KINSCHELOX EMAIL 4 Dama OM NIIAL

Page 2 of 2



July 03, 2019

From:

To:

**PARTNERS** 

Robert L. Pian, AIA, NCARB

William R. Pittenger, RA, CSI

Mark A. Davenport, AIA, LEED AP BD+C

**ASSOCIATES** 

All Bidders, Suppliers and Other Interested Parties Richard K. Begay Jr., AlA

Neil L. Pieratt, RA, LEED AP BD+C

Subject: ADDENDUM NO. 2

SPS+ Architects, LLP

8681 East Via de Negocio

Scottsdale, AZ 85258-3330

Project: GLENDALE ELEMENTARY SCHOOL DISTRICT #40

SUNSET VISTA ELEMENTARY WEATHERIZATION

SPS+ ARCHITECTS PROJECT No. 1875

Bid Date: Wednesday July 10th, 2019 12:00 P.M. Local Time

With reference to the Plans and Specifications for the above-designated project, which are in your possession for the purpose of preparing a Fixed Contract Amount, please note the following information, all of which is hereby made a part of the Contract Documents. This addendum supersedes all previous information.

## **GENERAL**:

## Item 1. Existing pre-finished metal parapet cap and metal roof

A. Existing pre-finished metal parapet cap and metal roofs are to remain. No paint.

## Item 2. Asbestos containing material inspection report

A. Refer to the attached asbestos containing material inspection report dated June 13, 2019.

# <u>Item 3. Lead containing material inspection report</u>

A. Refer to the attached lead containing material inspection report dated June 12, 2019.

## Item 4. Paint colors

- A. Current dark color areas/doors & window frames (if painted) are to be color DET695 Grange Hall.
- B. Current tan and blue areas, soffit areas and any wrought iron fencing are to be color DEC760 Desert Gray.

## **DRAWINGS:**

# Item 1. SHEET G100 COVER SHEET

B. Revise Bid Alternate No. 4 as follows:

"Base Bid to include painting of all exterior door frames and sealing perimeter of frames. Paint to door jamb stop, all exposed exterior surfaces. Provide

alternate bid for painting of all exterior doors, including overhead coiling doors. Paint exterior faces only."

# <u>Item 2. SHEET A301 BUILDINGS C, D, & E - EXTERIOR ELEVATIONS</u>

- A. Revise Key Note 9 as follows:
  - 9. Remove downspout. Prep, prime, and paint column. Raise splashblock and extend downspout. See photo #'s 46 & 47. Prep, prime and paint downspout. Color to match column.

# **SPECIFICATIONS**

## Item 1. Section 01 2300 Alternates

A. Revise Part 3.1, D, Bid Alternate No. 4 as follows:

"Base Bid to include painting of all exterior door frames and sealing perimeter of frames. Paint to door jamb stop, all exposed exterior surfaces. Provide alternate bid for painting of all exterior doors, including overhead coiling doors. Paint exterior faces only."

### Item 2. Section 07 9200 Joint Sealants

A. Replace Section 07 9200 Joint Sealants in its entirety.

## **ATTACHMENTS**

- 1. Specification Section 07 9200 Joint Sealants.
- 2. Asbestos containing material inspection report June 13, 2019.
- 3. Lead containing material inspection report June 12, 2019

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM No. 2 IN THE SPACE PROVIDED ON THE AMENDMENT ACKNOWLEDGEMENT FORM, PAGE 30 OF 47 IN DISTRICT SPECIFICATION DOCUMENTS.

- END -



# SECTION 07 9200 JOINT SEALANTS

#### **PART 1 - GENERAL**

#### 1.1 SECTION INCLUDES

- A. Sealants and joint backing.
- B. Pre-compressed foam sealers.

#### 1.2 REFERENCE STANDARDS

- A. ASTM C920 Standard Specification for Elastomeric Joint Sealants; 2011.
- B. ASTM C1193 Standard Guide for Use of Joint Sealants: 2011a.

## 1.3 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

#### **PART 2 - PRODUCTS**

#### 2.1 MANUFACTURERS

- A. Gunnable and Pourable Sealants:
  - 1. Commercial grade sealants with 10 year manufacturer's warranty.
- B. Approved Alternate Manufacturers:
  - 1. Tremco
  - 2. Sika

## 2.2 SEALANTS

- A. Sealants and Primers General: Provide products having volatile organic compound (VOC) content as specified in Section 01 6116.
- B. General Purpose Exterior Sealant: Urethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
  - 1. Color: To be selected by Architect from manufacturer's standard range.
  - 2. Product: Stampede manufactured by Sherwin-Williams Company.
  - 3. Applications: Use for:
    - a. Control, expansion, and soft joints in masonry.
    - b. Joints between concrete and other materials.
    - c. Joints between metal frames and other materials.
    - d. Other exterior joints for which no other sealant is indicated.

#### 4. Urethane Products:

- a. Commercial grade sealants with 10 year manufacturer's warranty.
- C. Exterior Expansion Joint Sealer: Pre-compressed foam sealer; urethane with water-repellent;
  - 1. Face color: Match adjacent finished surfaces...
  - 2. Size as required to provide weathertight seal when installed.
  - 4. Applications: Use for:
    - a. Exterior wall expansion joints.
  - 5. Products:
    - a. Commercial grade sealants with 10 year manufacturer's warranty.

JOINT SEALERS 07 9200 - 1

Glendale Elementary School District

#### 2.3 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width; manufactured by Tremco, Inc.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

#### **PART 3 - EXECUTION**

#### 3.1 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

#### 3.2 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

#### 3.3 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.

#### 3.4 CLEANING

A. Clean adjacent soiled surfaces.

#### 3.5 PROTECTION

A. Protect sealants until cured.

#### **END OF SECTION**

JOINT SEALERS 07 9200 - 2



# Polarized Light Microscope (PLM) Analysis for Asbestos in Bulk Sample

JobNumber:

201905447

Client:

**HUTZEL AND ASSOCIATES** 

1626 E ALICIA DRIVE

PHOENIX, AZ 85042-0000 Office Phone: (602) 323-0222

FAX:

**# Samples:** 54 PLM **Rec:** 6/10/2019 **Method:** EPA 600/R-93/116 The "New" Method; see below

Client Job: 19-12119 GESD

Report Date: 6/13/2019 Date Analyzed: 6/13/2019 Routing Number: -

Method and Analysis Information: Fiberquant Internal SOP: PLMn

Each bulk sample is first dissected under a 7-30x magnification stereo-microscope. This examination is used to determine the general type of sample, how many and what type of layers it has, and initial estimates of fiber types and quantities. Second, liquid media mounts are made of each layer - such mounts may be of selected fibers (used solely for identification purposes) or may be representative of the layer as a whole (used for quantitation purposes). The mounts may be made in a synthetic Canadian balsam, one of several solvents, or in refractive index oils (media of known refractive index). Generally, a variety of different mounts are made: some optimized for fiber visibility, some optimized for fiber identification, and some optimized for fiber quantitation. The mounted slides are then examined at 50-400x magnification on a Nikon Labphot-pol microscope. Optical characteristics are used to identify each observed fiber type; the optical data are contained for each sample on its detail analysis sheet, attached.

PO Number:

Current EPA and NESHAP regulations designate a result of <=1 % asbestos as "negative" and >1 % asbestos as "positive". Samples containing layers that have been determined to be "positive" may have to be handled differently during a renovation or demolition than samples whose layers have been determined to be "negative."

The method of fiber identification and quantitation is the "Standard Operating Procedures for the Analysis of Asbestos in Bulk Samples using Polarized Light Microscopy", Chapter 7 of the Quality Assurance and Management Manual. This SOP and its associated reporting have been designed to satisfy all requirements in both EPA Method 600/M4-82-020 (The Interim Method) and EPA Method 600/R-93/116 (The New Method). The Interim Method is the required method for AHERA (US EPA 40 CFR Pt. 763), but this method calls for the reporting of composited results of multi-layered samples that is no longer an acceptable reporting practice in most circumstances. Current EPA rules, such as NESHAP (US EPA 40 CFR Pt. 61), as well as NVLAP accreditation policies, call for separate reporting for each layer of multi-layered samples. The New Method contains the same procedures for identification and quantification of asbestos as does the Interim Method, except that multi-layered samples are reported to comply with the latest US EPA rule. Fiberquant not only reports the asbestos content of each layer of multi-layered samples separately (satisfying current EPA and NVLAP reporting requirements), but Fiberquant also reports what percentage of the sample each layer comprises. Therefore, the results may be arithmetically composited to satisfy the reporting requirements of the Interim Method. The method of fiber quantitation is an estimation technique in which the analysts quantitation is routinely calibrated by reference quantitation standards, and which has been shown to be equivalent in precision and accuracy to point counting. Friability is estimated for the purposes of deciding when to point count. Friabilities determined in the field take precedence over those determined in the laboratory. Those sample layers which are friable and estimated by the analyst to contain <= 1% asbestos are point counted using 400 points. Such point counting is required by NESHAP (National Emission Standards for Hazardous Air Polutants, Nov. 1990) in order to rely on analytical results that are <= 1%. The coefficient of variation for the estimation quantitation technique is 100% in the range 0-5%. This means that PLM analysis is not capable of conclusively determining whether a layer containing close to 1% asbestos is actually "positive" or "negative". For this reason, Fiberquant refers to results where asbestos was detected but <= 1% as "borderline negative", and results where asbestos was >1 % but <= 2% as "borderline positive" to indicate the uncertainty in assigning a "positive" or "negative" label. In the sample summary, "ND" means that no asbestos was detected during the analysis. A "Tr" or "Trace" of asbestos reported is defined for our purposes as the detection of several asbestos fibers during the analysis; this level would be right at the limit of detection for the method. Trace is only reported on the analysis detail - in the summary a trace would be reported as <=1%. The limit of detection (the smallest % of asbestos that can be detected) varies greatly depending on the matrix in which the asbestos is found. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 1% stated in the method. During the analysis, the analyst, for Fiberquant identification purposes only, determines the "apparent sample type" and "apparent layer types." It must be emphasized that these types are only what is apparent. Often, different materials appear similar or identical after sampling, so the analyst may assign a type other than what was sampled.

Floor tiles present a special problem for PLM asbestos analysis. Floor tile can contain chrysotile fibers so thin that they cannot be resolved by optical methods. In such a case, we may observe a percentage of asbestos which is lower than the actual percentage, or not observe asbestos at all when some is present. For this reason, floor tiles reported as negative should be confirmed to be negative using transmission electron microscope (TEM) analysis. Likewise, vermiculite insulation materials containing traces of asbestiform asbestos present a problem for routine PLM analysis - the amphiboles are sometimes present in trace amounts inhomogeneously distributed. For this reason, loose vermiculite samples reported as negative should be confirmed to contain no amphibole using hydroseparation techniques.

The samples were analyzed under the following ongoing quality assurance program: Blank samples are routinely analyzed to maintain contamination-free materials. Each analyst has at least a bachelor's degree in physical science, and has also completed extensive training specific to asbestos analysis for 1-3 months before being allowed to analyze client samples. Qualitative reference samples are routinely analyzed to assure that analysts can identify asbestos and asbestos-look-alike fibers. Quantitative reference samples are routinely analyzed to calibrate and characterize the

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Page 1 of 28 Fiberquant, Inc.

estimation procedure. Microscope alignment is checked each day. Refractive index oils are calibrated at least quarterly. At least 10% of client samples are re-analyzed from scratch by a different analyst than the original, and any discrepancies are resolved for the sample and similar sample types before the results are reported. All quality checks performed for these samples were in control except as detailed in the "Analytical Notes" below. All analysts participate in interlab round robins and proficiency testing to assure competence. Fiberquant is accredited by NVLAP (Lab code #101031) for the analysis of bulk samples for asbestos using PLM. Accreditation does not imply endorsement by the EPA, any other United States governmental agency or any private agency or association. Each lab analysis refers only to the sample tested, and may not, due to the sampling process, be representative of the material sampled. This report may not be reproduced except in full, without the approval of Fiberquant Analytical Services.

Some results may have been calculated using client supplied data, such as volume or area sampled, for which Fiberquant assumes no liability for accuracy.

#### Job Analysis Notes:

#### **PLM Analysis Summary: Job Number:** 201905447 19-12119 GESD

Sample Number		Lab Number	Apparent Sample Type *	Positive Layer Yes or No
Layer Color	Apparent Layer Ty	pe * Asbe	stos Results	
Sample # <b>HA-GESD-0610-1</b>		2019-05447- 1	Adhesive/caulk	Positive Layer? No
Layer # 1 gray	sealant		pestos detected	•
Sample # <u>HA-GESD-0610-2</u>	-	2019-05447- 2	Adhesive/caulk	Positive Layer? No
Layer # 1 gray	sealant	no ast 2019-05447- 3	pestos detected	Positive Layer? No
Sample # <u><b>HA-GESD-0610-3</b></u> Layer # 1 gray	sealant		Adhesive/caulk Destos detected	Positive Layer: No
Sample # <b>HA-GESD-0610-4</b>		2019-05447- 4	Adhesive/caulk	Positive Layer? No
Layer # 1 various	paint	no asl	pestos detected	
Layer # 2 gray	sealant •		pestos detected	Desirius Laure 2. No
Sample # <u><b>HA-GESD-0610-5</b></u> Layer # 1 various	<u>paint</u>	2019-05447- 5	Adhesive/caulk Destos detected	Positive Layer? No
Layer # 2 white	sealant		pestos detected	
Layer # 3 gray	sealant	no asl	pestos detected	
Sample # <b>HA-GESD-0610-6</b>	<u>i</u>	2019-05447- 6	Adhesive/caulk	Positive Layer? No
Layer # 1 tan	paint		pestos detected	
Layer # 2 white Layer # 3 gray	sealant sealant		pestos detected pestos detected	
Layer # 3 gray Sample # <b>HA-GESD-0610-7</b>		2019-05447- 7	Adhesive/caulk	Positive Layer? No
Layer # 1 brown	sealant		pestos detected	
Layer # 2 gray	foam	no asl	pestos detected	
Sample # <u>HA-GESD-0610-8</u>	_	2019-05447- 8	Adhesive/caulk	Positive Layer? No
Layer # 1 brown Layer # 2 green	sealant paint		pestos detected pestos detected	
Sample # <b>HA-GESD-0610-9</b>	•	2019-05447- 9	Adhesive/caulk	Positive Layer? No
Layer # 1 brown	sealant		pestos detected	rositive Edyer. No
Layer # 2 green	paint	no ast	pestos detected	
Sample # <b>HA-GESD-0610-1</b>		2019-05447- 10	Adhesive/caulk	Positive Layer? No
Layer # 1 green Layer # 2 off-white	paint		pestos detected pestos detected	
Sample # <b>HA-GESD-0610-1</b>	sealant 1	2019-05447- 11	Adhesive/caulk	Positive Layer? No
Layer # 1 brown	paint		pestos detected	rositive Layer. No
Layer # 2 off-white	sealant	no ast	pestos detected	
Sample # <b>HA-GESD-0610-1</b>		2019-05447- 12	Adhesive/caulk	Positive Layer? No
Layer # 1 various	paint		pestos detected pestos detected	
Layer # 2 off-white Sample # <b>HA-GESD-0610-1</b>	sealant	2019-05447- 13	Miscellaneous	Positive Layer? No
Layer # 1 green	paint		pestos detected	rositive Layer. No
Layer # 2 white	sealant	no ast	pestos detected	
Layer # 3 gray	block		pestos detected	
Sample # <b>HA-GESD-0610-1</b>	<del></del>	2019-05447- 14	Miscellaneous	Positive Layer? No
Layer # 1 green Layer # 2 white	paint sealant		pestos detected pestos detected	
Layer # 3 gray	block		pestos detected	
Sample # HA-GESD-0610-1	<u>.5</u>	2019-05447- 15	Miscellaneous	Positive Layer? No
Layer # 1 green	paint		pestos detected	
Layer # 2 white	sealant		pestos detected	
Layer # 3 gray Sample # <b>HA-GESD-0610-1</b>	block 6	2019-05447- 16	pestos detected Miscellaneous	Positive Layer? No
Layer # 1 brown	paint		pestos detected	1 ositive Layer. 140
Layer # 2 white	sealant		pestos detected	
Layer # 3 gray	block		pestos detected	
Sample # <b>HA-GESD-0610-1</b>	<del></del>	2019-05447- 17	Miscellaneous	Positive Layer? No
Layer # 1 brown Layer # 2 white	paint sealant		pestos detected pestos detected	
Layer # 2 White Layer # 3 gray	block		pestos detected	

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Page 2 of 28 Fiberquant, Inc.

	N-GESD-0610-1	<del></del>	2019-05447-		Positive Layer? No
Layer # Layer #		paint block		no asbestos detected no asbestos detected	
	\-GESD-0610-1		2019-05447-		Positive Layer? No
Layer #		paint		no asbestos detected	
Layer #	2 gray	plaster	r	no asbestos detected	
· -	N-GESD-0610-2		2019-05447-	•	Positive Layer? No
Layer #		paint		no asbestos detected no asbestos detected	
Layer #	:2 gray <b>\-GESD-0610-2</b>	plaster • <b>1</b>	2019-05447-		Positive Layer? No
Layer #		paint		no asbestos detected	robitive Layer. 140
Layer #	2 gray	plaster	r	no asbestos detected	
	N-GESD-0610-2		2019-05447-	•	Positive Layer? No
Layer #		sealant	2019-05447-	no asbestos detected	Positive Layer? No
Sample # HA	<b>\-GESD-0610-2</b> : 1 white	sealant		23 Adhesive/caulk no asbestos detected	Positive Layer? No
	N-GESD-0610-2		2019-05447-		Positive Layer? No
Layer #	1 tan	paint	r	no asbestos detected	•
Layer #		sealant		no asbestos detected	
	N-GESD-0610-2	<del></del>	2019-05447-	- ·	Positive Layer? No
Layer # Layer #		paint plaster		no asbestos detected no asbestos detected	
	\-GESD-0610-2	•	2019-05447-		Positive Layer? No
Layer #		paint		no asbestos detected	
Layer #	2 gray	plaster	r	no asbestos detected	
	N-GESD-0610-2	<del></del> '	2019-05447-	3 ,	Positive Layer? No
Layer #	_	paint plaster		no asbestos detected no asbestos detected	
Layer #	: 2	•	2019-05447-		Positive Layer? No
Layer #		paint		no asbestos detected	1 OSICIVE Layer: 140
Layer #		sealant	r	no asbestos detected	
Layer #	3 gray	block		no asbestos detected	
	N-GESD-0610-2	<del></del>	2019-05447-		Positive Layer? No
Layer # Layer #		paint sealant		no asbestos detected no asbestos detected	
Layer #		block		no asbestos detected	
	A-GESD-0610-3		2019-05447-		Positive Layer? No
		<u> </u>		30 Miscellaneous	
Layer #		paint	r	no asbestos detected	rositive Layer: 140
Layer # Layer #	green white	paint texture/joint compo	r ound r	no asbestos detected no asbestos detected	Tositive Edyer: No
Layer # Layer # Layer #	green 2 white 3 gray	paint texture/joint compo block	r ound r r	no asbestos detected no asbestos detected no asbestos detected	·
Layer # Layer # Layer # Sample # <u>H</u>	1 green 2 white 3 gray <b>A-GESD-0610-3</b>	paint texture/joint compo block I <u>1</u>	r ound r r 2019-05447-	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous	Positive Layer? No
Layer # Layer # Layer #	1 green 2 white 3 gray <b>A-GESD-0610-3</b> 1 tan	paint texture/joint compo block	r ound r r 2019-05447- r	no asbestos detected no asbestos detected no asbestos detected	·
Layer # Layer # Layer # Sample # <u>H</u> Layer #	1 green 2 white 3 gray <b>A-GESD-0610-3</b> 1 tan 2 white	paint texture/joint compo block i <u>1</u> paint	round r 2019-05447- round r	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected	·
Layer #	1 green 2 white 3 gray A-GESD-0610-3 1 tan 2 white 3 gray A-GESD-0610-3	paint texture/joint compo block  11 paint texture/joint compo block 12	round r 2019-05447- round r 2019-05447-	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected 32 Miscellaneous	·
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Layer : Layer : Layer : Sample # H. Layer :	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white	paint texture/joint compo block  i.1 paint texture/joint compo block i.2 paint texture/joint compo	2019-05447- rund r 2019-05447- rund r 2019-05447- rund r	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected no asbestos detected no asbestos detected no asbestos detected 32 Miscellaneous no asbestos detected	Positive Layer? No
Layer : Layer : Layer : Sample # H. Layer :	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white	paint texture/joint compo block  i.1 paint texture/joint compo block  i.2 paint texture/joint compo block	2019-05447- rund r 2019-05447- rund r 2019-05447- rund r	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected	Positive Layer? No
Layer a	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # 3 gray # 4-GESD-0610-3 # 1 tan	paint texture/joint compo block  i1 paint texture/joint compo block i2 paint texture/joint compo block i3 paint	2019-05447- 2019-05447- 2019-05447- 2019-05447-	no asbestos detected	Positive Layer? No Positive Layer? No
Layer a	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 4 white	paint texture/joint compo block  11 paint texture/joint compo block  12 paint texture/joint compo block 13 paint texture/joint compo block 13 paint texture/joint compo	2019-05447- round r 2019-05447- round r 2019-05447- r 2019-05447- r 2019-05447-	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected	Positive Layer? No Positive Layer? No
Layer a	1 green 2 white 3 gray A-GESD-0610-3 1 tan 3 gray A-GESD-0610-3 1 tan 3 gray A-GESD-0610-3 3 gray A-GESD-0610-3	paint texture/joint composition block  11 paint texture/joint composition block 12 paint texture/joint composition block 13 paint texture/joint composition block 13 paint texture/joint composition	2019-05447- rund r 2019-05447- rund r 2019-05447- rund r 2019-05447-	no asbestos detected	Positive Layer? No  Positive Layer? No  Positive Layer? No
Layer : Layer : Layer : Sample # H. Layer : La	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 3 gray # 4-GESD-0610-3 # 4-GESD-0610-3	paint texture/joint compo block  11 paint texture/joint compo block  12 paint texture/joint compo block  13 paint texture/joint compo block  14	2019-05447-  aund r  2019-05447-  aund r  2019-05447-  aund r  2019-05447-  aund r  2019-05447-	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected	Positive Layer? No Positive Layer? No
Layer a	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 3 gray # 4-GESD-0610-3 # 1 brown	paint texture/joint composition block  11 paint texture/joint composition block 12 paint texture/joint composition block 13 paint texture/joint composition block 13 paint texture/joint composition	2019-05447- rund r 2019-05447- rund r 2019-05447- rund r 2019-05447- rund r 2019-05447-	no asbestos detected	Positive Layer? No  Positive Layer? No  Positive Layer? No
Layer a	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 3 gray # 4-GESD-0610-3 # 1 brown	paint texture/joint composition  paint texture/joint composition block  paint sealant	2019-05447- rund r 2019-05447- rund r 2019-05447- rund r 2019-05447- rund r 2019-05447-	no asbestos detected	Positive Layer? No  Positive Layer? No  Positive Layer? No
Sample # H. Layer #	# 1 green # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 brown # 4-GESD-0610-3 # 1 brown # 4-GESD-0610-3 # 1 brown	paint texture/joint composition  paint texture/joint composition block  paint sealant	2019-05447-  2019-05447-  2019-05447-  round r  2019-05447-  r  2019-05447-  r  2019-05447-  r  2019-05447-	no asbestos detected	Positive Layer? No  Positive Layer? No  Positive Layer? No  Positive Layer? No
Layer a	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown	paint texture/joint composition block  i.1  paint texture/joint composition block  i.2  paint texture/joint composition block  i.3  paint texture/joint composition block  i.4  paint sealant  i.5  paint sealant	2019-05447-  2019-05447-  2019-05447-  round r  2019-05447-  2019-05447-  r  2019-05447-  r  7	no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown # A-GESD-0610-3 # 1 brown # A-GESD-0610-3 # 1 brown # A-GESD-0610-3 # 2 brown # A-GESD-0610-3 # 3 brown # 3 gray # 4 GESD-0610-3 # 5 brown # 4 GESD-0610-3 # 5 brown	paint texture/joint composition block  i1 paint texture/joint composition block  i2 paint texture/joint composition block  i3 paint texture/joint composition block  i4 paint sealant sealant sealant	2019-05447-  rund  2019-05447-  rund  r  2019-05447-  r  2019-05447-  r  2019-05447-  r  2019-05447-	no asbestos detected	Positive Layer? No  Positive Layer? No  Positive Layer? No  Positive Layer? No
Layer :	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown # 2 brown # A-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 1 brown # 4-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 3 gray # 4-GESD-0610-3 # 5 brown # 4-GESD-0610-3 # 5 brown # 5 brown # 6-GESD-0610-3 # 5 brown # 6-GESD-0610-3 # 5 brown	paint texture/joint composition block  i.1  paint texture/joint composition block  i.2  paint texture/joint composition block  i.3  paint texture/joint composition block  i.4  paint sealant  i.5  paint sealant	2019-05447-  aund r  2019-05447-  aund r  2019-05447-  aund r  2019-05447-  r  2019-05447-  r  2019-05447-	no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown # 2 brown # A-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 1 brown # 4-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 3 gray # 4-GESD-0610-3 # 5 brown # 4-GESD-0610-3 # 5 brown # 5 brown # 6-GESD-0610-3 # 5 brown # 6-GESD-0610-3 # 5 brown	paint texture/joint composition block  1.1 paint texture/joint composition block 1.2 paint texture/joint composition block 1.3 paint texture/joint composition block 1.4 paint sealant 1.5 paint sealant 1.6 sealant foam	2019-05447-  aund r  2019-05447-  aund r  2019-05447-  aund r  2019-05447-  r  2019-05447-  r  2019-05447-	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown # 2 brown # A-GESD-0610-3 # 1 brown # 2 gray # A-GESD-0610-3 # 1 brown # 3 gray # 3 gray # 3 gray # 3 gray # 4 GESD-0610-3 # 1 brown # 2 gray # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 3 gray # 3 gray # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 3 gray # 4 GESD-0610-3 # 1 brown # 4 GESD-0610-3 # 1 brown # 5 gray # 6 gray # 7 gray	paint texture/joint compositock  i.1  paint texture/joint compositock  i.2  paint texture/joint compositock  i.3  paint texture/joint compositock  i.4  paint sealant sealant sealant foam  i.7  paint	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  7  2019-05447-	no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 brown # 2 brown # 4-GESD-0610-3 # 1 brown # 2 brown # 4-GESD-0610-3 # 1 brown # 2 gray # 4-GESD-0610-3 # 1 tan # 2 white	paint texture/joint compositors  i.i.  paint texture/joint compositors block  i.i.  paint texture/joint compositors block  i.i.  paint texture/joint compositors block  i.i.  paint sealant sealant sealant foam  i.i.  paint sealant sealant foam  i.i.  paint sealant sealant sealant sealant sealant sealant sealant sealant sealant	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  7  2019-05447-  7  2019-05447-  7  2019-05447-	no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 brown # 2 brown # 4-GESD-0610-3 # 1 brown # 2 brown # 4-GESD-0610-3 # 1 brown # 2 gray # 4-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 3 gray	paint texture/joint composition  paint texture/joint composition block  22 paint texture/joint composition block  33 paint texture/joint composition block  44 paint sealant sealant  55 paint sealant foam  77 paint sealant sealant sealant sealant sealant sealant sealant	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  7  2019-05447-  7  2019-05447-  7  2019-05447-	no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 tan # 2 white # 3 gray # 4-GESD-0610-3 # 1 brown # 2 brown # 4-GESD-0610-3 # 1 brown # 2 gray # 4-GESD-0610-3 # 1 brown # 2 gray # 3-GESD-0610-3 # 1 brown # 2 gray # 3-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3 # 1 brown # 3 gray # 4-GESD-0610-3	paint texture/joint composition block  i.1  paint texture/joint composition block  i.2  paint texture/joint composition block  i.3  paint texture/joint composition block  i.4  paint sealant sealant sealant foam i.7  paint sealant	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-	no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown # 2 brown # A-GESD-0610-3 # 1 brown # 2 brown # A-GESD-0610-3 # 1 brown # 2 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # 3 gray # 4 GESD-0610-3 # 1 gray # 4 GESD-0610-3 # 2 gray # 3 gray # 4 GESD-0610-3 # 3 gray # 4 GESD-0610-3 # 4 gray # 4 GESD-0610-3 # 5 gray # 5 gray # 6 GESD-0610-3 # 6 GESD-0610-3 # 7 gray # 6 GESD-0610-3 # 7 gray # 7 GESD-0610-3 # 8 gray # 8 GESD-0610-3 # 9 GESD-0610-3 # 1 tan # 9 GESD-0610-3 # 1 tan # 1 tan	paint texture/joint composition  paint texture/joint composition block  22 paint texture/joint composition block  33 paint texture/joint composition block  44 paint sealant sealant  55 paint sealant foam  77 paint sealant sealant sealant sealant sealant sealant sealant	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  7  2019-05447-  7  2019-05447-  7  2019-05447- 7  2019-05447- 7  2019-05447-	no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown # 2 brown # 3 brown # 4 brown # 5 brown # 5 brown # 5 brown # 6 brown # 6 brown # 7 brown # 7 brown # 8 brown # 8 brown # 9 brown #	paint texture/joint composition block  1.1 paint texture/joint composition block 1.2 paint texture/joint composition block 1.3 paint texture/joint composition block 1.4 paint sealant sealant 1.5 paint sealant foam 1.7 paint sealant	2019-05447-  und  r 2019-05447-  und  r 2019-05447-  und  r 2019-05447-  r 2019-05447-  r 2019-05447-  r 2019-05447-  r 2019-05447-  r 2019-05447-	no asbestos detected no asbestos detected no asbestos detected 31 Miscellaneous no asbestos detected	Positive Layer? No
Layer a Layer	# 1 green # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 tan # 2 white # 3 gray # A-GESD-0610-3 # 1 brown # 2 brown # 3 brown # 4 brown # 5 brown # 5 brown # 5 brown # 6 brown # 6 brown # 6 brown # 7 brown # 7 brown # 8 brown # 9 brown #	paint texture/joint compositock  i.1  paint texture/joint compositock  i.2  paint texture/joint compositock  i.3  paint texture/joint compositock  i.4  paint sealant sealant foam i.7  paint sealant	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-	no asbestos detected	Positive Layer? No
Layer a Layer	1 green 2 white 3 gray 3 T tan 2 white 3 gray 4 GESD-0610-3 1 brown 2 brown 4 GESD-0610-3 1 brown 2 gray 4 GESD-0610-3 1 tan 2 white 3 gray 4 GESD-0610-3 1 tan 3 gray 4 GESD-0610-3	paint texture/joint compositock  i1 paint texture/joint compositock  i2 paint texture/joint compositock  i3 paint texture/joint compositock  i4 paint sealant sealant foam i5 paint sealant	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  7  2019-05447-  7  2019-05447-  7  2019-05447-  7  2019-05447-	no asbestos detected	Positive Layer? No  Positive Layer? No
Layer a Layer	1 green 2 white 3 gray 3 t tan 2 white 3 gray 4 GESD-0610-3 1 brown 2 brown 4 GESD-0610-3 1 brown 2 gray 4 GESD-0610-3 1 tan 2 white 3 gray 4 GESD-0610-3 1 tan 3 gray 4 GESD-0610-3 1 tan 4 GESD-0610-3 1 tan 5 white 5 gray 6 GESD-0610-3 1 tan 6 White 6 GRANGESD-0610-3 1 tan 6 White 6 GRANGESD-0610-3 6 Tan	paint texture/joint compositock  i.1  paint texture/joint compositock  i.2  paint texture/joint compositock  i.3  paint texture/joint compositock  i.4  paint sealant sealant foam i.7  paint sealant	2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  2019-05447-  7  2019-05447-  7  2019-05447-  7  2019-05447-  7  2019-05447-  7  7  7  7  7  7  7  7  7  7  7  7	no asbestos detected	Positive Layer? No  Positive Layer? No

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Page 3 of 28 Fiberquant, Inc.

Sample # <b>HA-GESD-0610-40</b>	2019-05447- 40 Miscellaneous	Positive Layer? No
Layer # 1 green paint	no asbestos detected	
Layer # 2 white sealant	no asbestos detected	
Layer # 3 gray block	no asbestos detected	
Sample # <b>HA-GESD-0610-41</b>	2019-05447- 41 Miscellaneous	Positive Layer? No
Layer # 1 blue paint	no asbestos detected	•
Layer # 2 white sealant	no asbestos detected	
Layer # 3 gray block	no asbestos detected	
Layer # 4 gray mortar	no asbestos detected	
Sample # <b>HA-GESD-0610-42</b>	2019-05447- 42 Miscellaneous	Positive Layer? No
Layer # 1 blue paint	no asbestos detected	•
Layer # 2 white sealant	no asbestos detected	
Layer # 3 gray block	no asbestos detected	
Sample # <b>HA-GESD-0610-43</b>	2019-05447- 43 Miscellaneous	Positive Layer? No
Layer # 1 brown paint	no asbestos detected	•
Layer # 2 white sealant	no asbestos detected	
Layer # 3 gray block	no asbestos detected	
Sample # <b>HA-GESD-0610-44</b>	2019-05447- 44 Miscellaneous	Positive Layer? No
Layer # 1 brown paint	no asbestos detected	•
Layer # 2 white sealant	no asbestos detected	
Layer # 3 gray block	no asbestos detected	
Sample # <b>HA-GESD-0610-45</b>	2019-05447- 45 Miscellaneous	Positive Layer? No
Layer # 1 brown paint	no asbestos detected	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Layer # 2 white sealant	no asbestos detected	
Layer # 3 gray block	no asbestos detected	
Sample # <b>HA-GESD-0610-46</b>	2019-05447- 46 Adhesive/caulk	Positive Layer? No
Layer # 1 brown paint	no asbestos detected	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Layer # 2 gray sealant	no asbestos detected	
Sample # <b>HA-GESD-0610-47</b>	2019-05447- 47 Adhesive/caulk	Positive Layer? No
Layer # 1 brown paint	no asbestos detected	
Layer # 2 gray sealant	no asbestos detected	
Sample # <b>HA-GESD-0610-48</b>	2019-05447- 48 Adhesive/caulk	Positive Layer? No
Layer # 1 brown paint	no asbestos detected	
Layer # 2 gray sealant	no asbestos detected	
Sample # <b>HA-GESD-0610-49</b>	2019-05447- 49 Wall System	Positive Layer? No
Layer # 1 pink paint	no asbestos detected	
Layer # 2 off-white plaster (top coat	no asbestos detected	
Layer # 3 gray plaster (scratch o		
Sample # <b>HA-GESD-0610-50</b>	2019-05447- 50 Wall System	Positive Layer? No
Layer # 1 pink paint	no asbestos detected	
Layer # 2 off-white plaster (top coat	no asbestos detected	
Layer # 3 gray plaster (scratch o	oat) no asbestos detected	
Sample # <b>HA-GESD-0610-51</b>	2019-05447- 51 Wall System	Positive Layer? No
Layer # 1 pink paint	no asbestos detected	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Layer # 2 off-white plaster (top coat	no asbestos detected	
Layer # 3 gray plaster (scratch o		
Sample # <b>HA-GESD-0610-52</b>	2019-05447- 52 Adhesive/caulk	Positive Layer? No
Layer # 1 gray sealant	no asbestos detected	,-
Sample # <b>HA-GESD-0610-53</b>	2019-05447- 53 Adhesive/caulk	Positive Layer? No
Layer # 1 off-white paint	no asbestos detected	
Layer # 2 gray sealant	no asbestos detected	
Sample # <b>HA-GESD-0610-54</b>	2019-05447- 54 Adhesive/caulk	Positive Layer? No
Layer # 1 gray sealant	no asbestos detected	22.70.1.10

<sup>\*</sup> Apparent Sample Types and Apparent Layer Types are as they appeared to the analyst. Since many types of materials appear similar after sampling damage, the apparent type of material may not be the actual type of material.

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Page 4 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Condition: acceptable

Sample HA-GESD-0610-1 **Lab Number** 2019-05447- 1 Sampled: 6/10/2019 Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery

Homogeneous Yes # Layers 1 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): filler, binder,

La	yers						Percents o	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	sealant	100	gray	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
			Fiber Id	lentification:	none					

	<del></del>								R	efractive I	ndex Deter	mination	IS
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-2 **Lab Number** 2019-05447- 2 Sampled: 6/10/2019 Condition: acceptable

Analyzed By RAM 6/13/2019 Apparent Smp Type Adhesive/caulk Rubbery

Homogeneous Yes # Layers 1 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): filler, binder,

L	ayers						Percents o	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	sealant	100	gray	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
			Fiber Id	lentification:	none					

			R	efractive I	ndex Dete	rminatior	IS						
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

**Sample** HA-GESD-0610-3 **Lab Number** 2019-05447-3 **Sampled:** 6/10/2019 Condition: acceptable

6/13/2019 Apparent Smp Type Adhesive/caulk Analyzed By RAM An? OK Rubbery

none

Homogeneous Yes # Layers 1 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): filler, binder,

Lay	/ers						Percents of	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	sealant	100	gray	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
			Fiber Id	dentification:	none					

			=	-		-	<u>-</u>		R	efractive I	ndex Deter	rmination	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

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Page 5 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Sample HA-GESD-0610-4

**Lab Number** 2019-05447- 4

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK # Layers 2

Apparent Smp Type Adhesive/caulk

Rubbery

Pos Layer? No Non-Fibrous Components (in approx. decreasing order): filler, binder,

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	5	various	1
2	sealant	95	gray	1
	Total %	100		Overall %

Percents of Each Fiber											
Fib 1 Fib 2 Fib 3 Fib 4 Fib 5 Fib											
n.d.	-	-	-	-	-						
n.d.	-	-	-	-	-						
n.d.	-	-	-	-	-						

Fiber Identification:

none

									R	efractive I	ndex Dete	rmination	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-5

Lab Number 2019-05447- 5

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

6/13/2019

An? OK

Apparent Smp Type Adhesive/caulk

Rubbery

Homogeneous No

# Layers 3

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): filler, binder,

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	3	various	1
2	sealant	2	white	1
3	sealant	95	gray	1
	Total %	100		Overall %

Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	I	I	I		
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-

Percents of Each Fiber

Fiber Identification:

none

	Refractive	Index Determi	nations

									- N	enactive 1			
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none							ľ					
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

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Page 6 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Sample HA-GESD-0610-6

**Lab Number** 2019-05447- 6

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK # Layers 3

Apparent Smp Type Adhesive/caulk Pos Layer? No

Rubbery

Non-Fibrous Components (in approx. decreasing order): filler, binder,

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	1	tan	1
2	sealant	4	white	1
3	sealant	95	gray	1
	Total %	100		Overall %

		Percents of	Each Fiber		
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
	T	I	T	I	I
n.d.	-	_	-	_	_

Fiber Identification:

	<del></del>								R	efractive I	ndex Detei	mination	iS
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-7

**Lab Number** 2019-05447- 7

**Sampled:** 6/10/2019

Condition: acceptable

6/13/2019 Analyzed By RAM

An? OK

Apparent Smp Type Adhesive/caulk

Pleo

Rubbery

Homogeneous No

# Layers 2

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): polymer, filler, polymer foam

L	ayers			
#	Layer Type	%	Color	Friability
1	sealant	95	brown	1
2	foam	5	gray	3
	Total %	100		Overall %

none

L			Percents of	Each Fiber		
	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
ſ	n.d.	-	-	-	-	-
	n.d.	-	-	-	-	-
ſ	n.d.	_	-	-	_	-

Fiber Identification:

Color

none

Mrph

Refractive Index Determinations											
Elg	Ext	Oi	I Col	Par Co	l Per R	I Par	RI Per				
	1	I I -									

Sample Analytical Note

**Fibers** 

1

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

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Page 7 of 28 Fiberquant, Inc.

none

201905447

19-12119 GESD

Sample HA-GESD-0610-8 Lab Number 2019-05447- 8 Sampled: 6/10/2019 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery

Homogeneous No # Layers 2 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): polymer, filler,

L	ayers						Percents of	Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	sealant	99	brown	1	n.d.	-	-	-	-	-
2	paint	1	green	1	n.d.	-	-	-	i	1
	Total %	100		Overall %	n.d.	-	-	=	=	-

Fiber Identification:

									Refractive Index Determinations					
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per	
1	none													
2														
3														
4														
5														
6														

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-9 Lab Number 2019-05447- 9 Sampled: 6/10/2019 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery

Homogeneous No # Layers 2 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Lay	yers				Percents of Each Fiber							
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6		
1	sealant	99	brown	1	n.d.	-	-	-	-	-		
2	paint	1	green	1	n.d.	-	-	-	-	-		
	Total %	100		Overall %	n.d.	_	_	-	_	_		

Fiber Identification: none

	Fil									efractive I	ndex Dete	rminatior	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

 Sample
 HA-GESD-0610-10
 Lab Number
 2019-05447-10
 Sampled: 6/10/2019
 6/10/2019
 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery

none

Homogeneous No # Layers 2 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler,

L	ayers						Percents o	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	green	1	n.d.	-	-	-	-	-
2	sealant	98	off-white	1	n.d.	-	-	-	-	-
	Total %	100	]	Overall %	n d	_	_	_	-	_

Fiber Identification:

							Refractive Index Determinations					
	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
none												

Sample Analytical Note

Fibers

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Analyzed By RAM

Job Number:

201905447

19-12119 GESD

Sample HA-GESD-0610-11 6/13/2019

**Lab Number** 2019-05447- 11 **Sampled:** 6/10/2019

Apparent Smp Type Adhesive/caulk

Rubbery

# Layers 2 Homogeneous No Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler,

An? OK

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	5	brown	1
2	sealant	95	off-white	1
	Total %	100		Overall %

Percents of Each Fiber											
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6						
n.d.	-	-	-	-	-						
n.d.	-	-	-	-	-						
n.d.	-	-	-	-	-						

Fiber Id	none											
_								R	efractive I	ndex Detei	rmination	าร
	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
•												

Sample Analytical Note

Fibers

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-12

**Lab Number** 2019-05447- 12

none

Mrph

**Sampled:** 6/10/2019

Condition: acceptable

Condition: acceptable

Analyzed By RAM

6/13/2019

none

none

An? OK

Apparent Smp Type Adhesive/caulk

Pleo

Bi

Rubbery

Homogeneous No

Pos Layer? No

# Layers 2

Non-Fibrous Components (in approx. decreasing order): polymer, filler,

L	ayers				Percents of Each Fiber							
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6		
1	paint	3	various	1	n.d.	-	-	-	-	-		
2	sealant	97	off-white	1	n.d.	-	-	-	-	-		
	Total %	100		Overall %	n.d.	-	-	-	-	-		

Iso

Fiber Identification:

Color

Elg

	Refractive Index Determinations												
Ext	Oil	Col Par	Col Per	RI Par	RI Per								

**Sample Analytical Note** 

**Fibers** 

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

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Page 9 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Sample HA-GESD-0610-13 Lab Number 2019-05447- 13 **Sampled:** 6/10/2019

Analyzed By RAM

6/13/2019

An? OK

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Condition: acceptable

Homogeneous No # Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	green	1
2	sealant	2	white	1
3	block	96	gray	1

Total %

none

100

	Percents of Each Fiber													
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6									
n.d.	-	-	-	-	-	-								
n.d.	-	-	-	-	-									
n.d.	-	-	-	-	-									
						-								

Fiber Identification:

Overall % none

Color

Refractive Index Determinations													
lg	Ext	Oil	Col Par	Col Per	RI Par	RI Per							

Sample Analytical Note

Fibers

3 4 5

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Mrph Iso

Sample HA-GESD-0610-14

**Lab Number** 2019-05447- 14

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

6/13/2019

An? OK

Fiber Identification:

Apparent Smp Type Miscellaneous

Pleo

Bi

Non-fibrous Solid

Homogeneous No

# Layers 3

Pos Layer? No

Daveante of Each Eibau

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

	ayers				
#	Layer Type	%	Color	Friability	
1	paint	2	green	1	
2	sealant	2	white	1	
3	block	96	gray	1	
	Total %	100		Overall %	

Percents of Each Fiber												
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6							
n.d.	-	-	-	-								
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							

			Refractive Index Determinations										
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

# Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

201905447

19-12119 GESD

Sample HA-GESD-0610-15

**Lab Number** 2019-05447- 15

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK

Apparent Smp Type Miscellaneous

Non-fibrous Solid

# Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	1	green	1
2	sealant	3	white	1
3	block	96	gray	1
	Total %	100		Overall %

	Percents of Each Fiber												
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6								
n.d.	-	-	-	-	-								
n.d.	-	-	-	-	-								
n.d.	-	-	-	-	-								
n.d.	-	-	-	-	-								

Fi

iber Identification:	none
----------------------	------

	<del></del>		R	efractive I	ndex Detei	mination	iS						
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-16

**Lab Number** 2019-05447- 16

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

6/13/2019

An? OK

none

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Homogeneous No

Pos Layer? No

# Layers 3

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

Fiber Identification:

La	ayers				Percents of Each Fiber							
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6		
1	paint	2	brown	1	n.d.	-	-	-	-	-		
2	sealant	3	white	1	n.d.	-	-	-	-	-		
3	block	95	gray	1	n.d.	-	-	-	-	-		
	Total %	100		Overall %	n.d.	-	-	-	-	-		

										Refractive Index Determinations				
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per	
1	none													
2														
3														
4														
5														
6														

# Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

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Page 11 of 28 Fiberquant, Inc.

none

201905447

19-12119 GESD

Sample HA-GESD-0610-17

Lab Number 2019-05447- 17

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK

Apparent Smp Type Miscellaneous

Non-fibrous Solid

# Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	brown	1
2	sealant	3	white	1
3	block	95	gray	1
	Total %	100		Overall %

	Percents of Each Fiber											
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							

Fiber	Id	lenti	fica	tion:
IIDCI		CITT	IIIOU	

		Refractive Index Determinations									ıs		
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-18

**Lab Number** 2019-05447- 18

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

6/13/2019

An? OK

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Homogeneous No

# Layers 2

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	5	various	1
2	block	95	gray	1
	Total %	100		Overall %

Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-

Percents of Each Fiber

Fiber Identification:

none

	<del></del>	Refractive Index Determinations								IS			
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

#### Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

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Page 12 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Sample HA-GESD-0610-19 Lab Number 2019-05447- 19 **Sampled:** 6/10/2019 Condition: acceptable Analyzed By RAM Apparent Smp Type Wall System 6/13/2019 An? OK Non-fibrous Solid

Homogeneous No # Layers 2 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, polymer

L	ayers						Percents of	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	tan	1	n.d.	-	-	-	-	-
2	plaster	98	gray	2	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-

Fiber Identification:

									Refractive Index Determinations					
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per	
1	none													
2														
3														
4														
5														
6														

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

Sample HA-GESD-0610-20 Lab Number 2019-05447- 20 Sampled: 6/10/2019 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Wall System Non-fibrous Solid

none

Homogeneous No # Layers 2 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, polymer

La	yers			[			Percents of	Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	tan	1	n.d.	-	-	-	-	-
2	plaster	98	gray	2	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-

Fiber Identification: none

						Refractive Index Determinations							
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

Sample HA-GESD-0610-21 **Lab Number** 2019-05447- 21 **Sampled:** 6/10/2019 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Wall System Non-fibrous Solid

Homogeneous No # Layers 2 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, polymer

L	ayers						Percents o	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	tan	1	n.d.	-	-	-	-	-
2	plaster	98	gray	2	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-		-

			Refractive	Index Determi	nations
Fiber Identification:	none	_			

								Refractive Index Determinations					
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

201905447

19-12119 GESD

Sample HA-GESD-0610-22 Lab Number 2019-05447- 22 **Sampled:** 6/10/2019 Condition: acceptable Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery Homogeneous Yes # Layers 1 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler, Layers Percents of Each Fiber Friability Fib 1 Fib 2 Fib 3 Fib 5 % Color Fib 4 Fib 6 **Layer Type** sealant 100 white n.d Total % 100 Overall % n.d. Fiber Identification: none Refractive Index Determinations Fibers Col Par Col Per RI Par RI Per Color Mrph Iso Pleo Bi Ela Ext none 2 3 4 5 6 Sample Analytical Note Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Sample HA-GESD-0610-23 **Lab Number** 2019-05447- 23 Sampled: 6/10/2019 Condition: acceptable Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery Homogeneous Yes # Layers 1 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler, Layers Percents of Each Fiber Layer Type % Color Friability Fib 1 Fib 2 Fib 3 Fib 4 Fib 5 Fib 6 100 sealant white n.d 1 Total % 100 Overall % n.d Fiber Identification: none Refractive Index Determinations Fibers Color Mrph Iso Pleo Bi Ela Ext Col Par Col Per RI Par RI Per none 2 3 4 5 6 Sample Analytical Note Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Sample HA-GESD-0610-24 Lab Number 2019-05447- 24 Sampled: 6/10/2019 Condition: acceptable Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery Homogeneous No # Layers 2 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler, Percents of Each Fiber Layer Type % Color Friability Fib 1 Fib 2 Fib 3 Fib 5 Fib 6 paint n.d. sealant 98 white n.d Total % 100 Overall % n.d. Fiber Identification: none Refractive Index Determinations Fibers Color Pleo Bi Elg Col Par Col Per RI Par RI Per Mrph Iso Ext none 2 3 4 5 6

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

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Page 14 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Sample HA-GESD-0610-25 Lab Number 2019-05447- 25 Sampled: 6/10/2019 Condition: acceptable Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Ceiling System

Homogeneous No # Layers 2

Non-fibrous Solid

Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, polymer

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	5	tan	1
2	plaster	95	gray	2
	Total %	100		Overall %

	Percents of Each Fiber									
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6					
n.d.	-	-	-	-	-					
n.d.	-	-	-	-	-					
n.d.	-	-	-	-	-					

Fiber Identification:

none

									R	efractive I			
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

Sample HA-GESD-0610-26

Lab Number 2019-05447- 26

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

6/13/2019 An? OK

Apparent Smp Type Ceiling System

Non-fibrous Solid

Homogeneous No # Layers 2

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, polymer

La	yers				Percents of Each Fiber						
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6	
1	paint	5	tan	1	n.d.	-	-	-	-	-	
2	plaster	95	gray	2	n.d.	-	-	-	-	-	
	Total %	100		Overall %	n.d.	-	-	-	-	-	

Fiber Identification:

Refractive	Index Determi	nations

									R		naex Deter		_
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

Sample HA-GESD-0610-27

**Lab Number** 2019-05447- 27

none

**Sampled:** 6/10/2019 Condition: acceptable

Analyzed By RAM

6/13/2019

Apparent Smp Type Ceiling System

Non-fibrous Solid

Fib 6

Homogeneous No

# Layers 2

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, polymer

An? OK

Lay	yers						Percents of	f Each Fiber	
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5
1	paint	5	tan	1	n.d.	-	-	-	-
2	plaster	95	gray	2	n.d.	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-

none

	<del></del>								R	efractive I	ndex Detei	rminatior	15
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

201905447

19-12119 GESD

Sample HA-GESD-0610-28

Lab Number 2019-05447- 28

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK

Apparent Smp Type Miscellaneous

Non-fibrous Solid

# Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	blue	1
2	sealant	3	white	1
3	block	95	gray	1
	Total %	100		Overall %

Percents of Each Fiber									
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6				
n.d.	-	-	-	-	-				
n.d.	-	-	-	-	-				
n.d.	-	-	-	-	-				
n d	_	_	_	_	_				

Fi

iber Identification:	none
----------------------	------

	<del></del>								R	efractive I	ndex Deter	minatior	IS
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

**Sample Analytical Note** 

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-29

**Lab Number** 2019-05447- 29

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

6/13/2019

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Homogeneous No.

#lavers 3

Pos Laver? No

nomogeneous no	" Layers	. oo Layen no
Non-Fibrous Components (in a	pprox. decreasing order):	powder, rock, binder

An? OK

La	ayers						Percents o	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	brown	1	n.d.	-	-	-	-	-
2	sealant	3	white	1	n.d.	-	-	-	-	-
3	block	95	gray	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-

Fiber Identification:

none

									R	efractive I	ndex Deter	minatior	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

#### Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

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Page 16 of 28 Fiberquant, Inc. Analyzed By RAM

Job Number:

201905447

Apparent Smp Type Miscellaneous

19-12119 GESD

Sample HA-GESD-0610-30 Lab Number 2019-05447- 30

**Sampled:** 6/10/2019

Condition: acceptable Non-fibrous Solid

Homogeneous No # Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

An? OK

Į	L	ayers			
	#	Layer Type	%	Color	Friability
ĺ	1	paint	1	green	1
	2	texture/joint compound	4	white	3
	3	block	95	grav	1

100

Total %

none

none

6/13/2019

	Percents of Each Fiber							
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6			
n.d.	-	-	-	-	-			
n.d.	-	-	-	-	-			
n.d.	-	-	-	-	-			
n.d.	-	_	-	-	_			

Fiber Identification:

Overall %

none

								•	•			
					R	efractive I	ndex Dete	minatior	IS			
	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
•												

#### Sample Analytical Note

Fibers

3 4 5

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-31 6/13/2019 **Lab Number** 2019-05447- 31

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

An? OK

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Homogeneous No

# Layers 3

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	Layers						Percents o	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	tan	1	n.d.	-	-	-	-	-
2	texture/joint compound	3	white	3	n.d.	-	-	-	-	-
3	block	95	gray	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-

Iso Pleo

Bi

Elg

Fiber Identification:

Color

none

Mrph

	F	efractive I	ndex Dete	rmination	ıs
Ext	Oil	Col Par	Col Per	RI Par	RI Per

#### Sample Analytical Note

Fibers

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Phone: 602-276-6139 5025 S. 33rd Street Phoenix, Arizona 85040-2816 1-800-743-2687 FAX: 602-276-4558

Page 17 of 28 Fiberquant, Inc.

none

201905447

19-12119 GESD

Sample HA-GESD-0610-32

Lab Number 2019-05447- 32

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK # Layers 3

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	tan	1
2	texture/joint compound	3	white	3
3	block	95	gray	1
	Total %	100		Overall %

	Percents of Each Fiber							
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6			
n.d.	-	-	-	-	-			
n.d.	-	-	-	-	-			
n.d.	-	-	-	-	-			
n.d.	-	-	-	-	-			

Fiber		

										efractive I	ndex Detei	terminations			
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per		
1	none														
2															
3															
4															
5															
6															

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-33

**Lab Number** 2019-05447- 33 **Sampled:** 6/10/2019 Condition: acceptable

Analyzed By RAM

6/13/2019

An? OK

Fiber Identification:

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Homogeneous No

# Layers 3

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

l	Layers				Percents of Each Fiber								
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6			
1	paint	2	tan	1	n.d.	-	-	-	-	-			
2	texture/joint compound	3	white	3	n.d.	-	-	-	-	-			
3	block	95	gray	1	n.d.	-	-	-	1	-			
	Total %	100		Overall %	n.d.	-	-	-	-	-			

none

	Fibrus								R	efractive I	Index Determinations			
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per	
1	none													
2														
3														
4														
5														
6														

# Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

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Page 18 of 28 Fiberquant, Inc. PLM Analysis Details Job Number: 201905447 19-12119 GESD Sample HA-GESD-0610-34 Lab Number 2019-05447- 34 **Sampled:** 6/10/2019 Condition: acceptable 6/13/2019 Analyzed By RAM An? OK Apparent Smp Type Adhesive/caulk Rubbery Homogeneous No # Layers 2 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler, Layers Percents of Each Fiber Friability Color Fib 1 Fib 2 Fib 3 Fib 5 **Layer Type** % Fib 4 Fib 6 paint brown n.d sealant 98 brown n.d Total % 100 Overall % n.d. Fiber Identification: none **Refractive Index Determinations** Fibers Color Mrph Iso Pleo Bi Elg Ext Oil Col Par Col Per RI Par RI Per none 2 3 4 5 6 Sample Analytical Note Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Sample HA-GESD-0610-35 **Lab Number** 2019-05447-35 **Sampled:** 6/10/2019 Condition: acceptable Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery Homogeneous No # Layers 2 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler, Percents of Each Fiber % Color Friability Fib 2 Fib 3 Fib 5 **Layer Type** Fib 1 Fib 6 2 brown n.d 98 sealant brown n.d. Total % 100 Overall % n.d. Fiber Identification: none **Refractive Index Determinations Fibers** Col Par Col Per RI Par RI Per Color Mrph Iso Pleo Bi Elg Ext none 2 3 4 5 6 Sample Analytical Note Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Sample HA-GESD-0610-36 **Lab Number** 2019-05447- 36 **Sampled:** 6/10/2019 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Rubbery

Homogeneous No # Layers 2 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): polymer, filler, polymer foam

La	ayers						Percents of	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	sealant	98	brown	1	n.d.	-	-	-	-	-
2	foam	2	gray	3	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-

Fiber

Identification:	none		
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	Fil										ndex Detei		ninations RI Par RI Per			
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per			
1	none															
2																
3																
4																
5																
6																

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

201905447

19-12119 GESD

Sample HA-GESD-0610-37

**Lab Number** 2019-05447- 37

**Sampled:** 6/10/2019

Rubbery

Analyzed By RAM Homogeneous No

6/13/2019

An? OK

Apparent Smp Type Adhesive/caulk

# Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	tan	1
2	sealant	3	white	1
3	sealant	95	gray	1
	Total %	100		Overall %

Percents of Each Fiber											
Fib 1 Fib 2 Fib 3 Fib 4 Fib 5											
n.d.	-	-	-	-	-						
n.d.	-	-	-	-	-						
n.d.	-	-	-	-	-						
n.d.	-	_	-	_	_						

Fiber Identification:

									R	efractive I	ndex Deter	mination	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

**Sample** HA-GESD-0610-38

Total %

none

**Lab Number** 2019-05447- 38

**Sampled:** 6/10/2019

Condition: acceptable

Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK

Apparent Smp Type Adhesive/caulk

Pleo

Bi

Elg

Rubbery

Homogeneous No

Pos Layer? No

# Layers 3 Non-Fibrous Components (in approx. decreasing order): polymer, filler, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	tan	1
2	sealant	3	white	1

95

100

Overall %

	Percents of Each Fiber											
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
- 4												

Fiber Identification:

Color

none

Iso

Mrph

Refractive Index Determinations													
	Ext		Oil Col Par Col Per RI Par RI Per										
_		_											

Sample Analytical Note

Fibers

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

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Page 20 of 28 Fiberquant, Inc.

none

201905447

19-12119 GESD

Sample HA-GESD-0610-39

**Lab Number** 2019-05447- 39

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK

Apparent Smp Type Adhesive/caulk

Rubbery

# Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler, binder

L	ayers			
#	Layer Type	Type %		Friability
1	paint	1	tan	1
2	sealant	4	white	1
3	sealant	95	gray	1
	Total %	100		Overall %

	Percents of Each Fiber													
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6									
n.d.	-	-	-	-	-									
n.d.	-	-	-	-	-									
n.d.	-	1	-	-	-									
n.d.	-	-	-	-	-									

Fiber Identification:

									R	efractive I	ndex Dete	mination	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

Sample HA-GESD-0610-40

**Lab Number** 2019-05447- 40

**Sampled:** 6/10/2019

Condition: acceptable

Fib 6

6/13/2019 Analyzed By RAM

An? OK

Apparent Smp Type Miscellaneous

Pleo

Fib 2

Bi

Ela

Non-fibrous Solid

Fib 5

Homogeneous No

# Layers 3

Pos Layer? No

Fib 1

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	Type %		Friability
1	paint	2	green	1
2	sealant	3	white	1
3	block	95	gray	1
	Total %	100		Overall %

none

n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-

Fib 3

**Percents of Each Fiber** 

Fib 4

Fiber Identification:

Color

none

Mrph Iso

	R	Refractive Index Determinations													
Ext	Oil	Col Par	Col Per	RI Par	RI Per										

#### Sample Analytical Note

Fibers

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

5025 S. 33rd Street Phoenix, Arizona 85040-2816 Phone: 602-276-6139 1-800-743-2687 FAX: 602-276-4558

Page 21 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Sample HA-GESD-0610-41

Lab Number 2019-05447- 41

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK # Layers 4

Apparent Smp Type Miscellaneous

Non-fibrous Solid

Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	1	blue	1
2	sealant	3	white	1
3	block	71	gray	1
4	mortar	25	gray	1
	Total %	100		Overall %

none

		Percents of	Each Fiber		
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-

Fib

ber Identification:	none

								Refractive Index Determinations					
	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per	
e													

#### Sample Analytical Note

Fibers

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-42

**Lab Number** 2019-05447- 42

**Sampled:** 6/10/2019

Condition: acceptable

Fib 6

Analyzed By RAM

6/13/2019

An? OK Apparent Smp Type Miscellaneous Non-fibrous Solid

Homogeneous No

# Layers 3

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

La	iyers				Percents of Each Fiber								
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5				
1	paint	1	blue	1	n.d.	-	-	-	-				
2	sealant	2	white	1	n.d.	-	-	-	-				
3	block	97	gray	1	n.d.	-	-	-	-				
	Total %	100		Overall %	n.d.	-	-	-	-				

Fiber Identification:

none

	File								Refractive Index Determinations				is
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

#### Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

none

201905447

19-12119 GESD

Sample HA-GESD-0610-43

**Lab Number** 2019-05447- 43

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK

Apparent Smp Type Miscellaneous

Non-fibrous Solid

# Layers 3 Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	brown	1
2	sealant	2	white	1
3	block	96	gray	1
	Total %	100		Overall %

	Percents of Each Fiber											
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							

Fiber	Identification:
-------	-----------------

	<del></del>								R	efractive I	ndex Deter	minatior	IS
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-44

**Lab Number** 2019-05447- 44

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM

6/13/2019 An? OK Apparent Smp Type Miscellaneous

Non-fibrous Solid

Homogeneous No

# Layers 3

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

La	yers			[	Percents of Each Fiber					
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	brown	1	n.d.	-	-	-	-	-
2	sealant	2	white	1	n.d.	-	-	-	-	-
3	block	96	gray	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-

Fiber Identification:

none

								R	efractive I	ndex Dete	rminatior	15
Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1 none												
2												
3												
4												
5												
6												

#### Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

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Page 23 of 28 Fiberquant, Inc. Analyzed By RAM

Job Number:

201905447

19-12119 GESD

Sample HA-GESD-0610-45 **Lab Number** 2019-05447- 45

**Sampled:** 6/10/2019

Condition: acceptable

Non-fibrous Solid

Apparent Smp Type Miscellaneous Homogeneous No # Layers 3 Pos Layer? No

An? OK

 $\textbf{Non-Fibrous Components (in approx. decreasing order):} \quad \text{powder, rock, binder}$ 

Lay	/ers			
#	Layer Type	%	Color	Friability
1	paint	2	brown	1
2	sealant	2	white	1
3	block	96	gray	1
	Total %	100		Overall %

6/13/2019

		Percents of	f Each Fiber		
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-

Fiber	Identification:	nor

									R	efractive I	ndex Dete	mination	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of cementitious components using acid. Procedure: dissolution of matrix using solvent.

Sample HA-GESD-0610-46

**Lab Number** 2019-05447- 46

**Sampled:** 6/10/2019

Condition: acceptable

**Analyzed By** RAM 6/13/2019

An? OK

Apparent Smp Type Adhesive/caulk

Rubbery

Homogeneous No

Pos Layer? No

# Layers 2

Non-Fibrous Components (in approx. decreasing order): polymer, filler, Lavers

	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	brown	1
2	sealant	98	gray	1
	Total %	100		Overall %

	Percents of Each Fiber											
Fib 1 Fib 2 Fib 3 Fib 4 Fib 5 Fib 6												
n.d.	-	-	-	-	-							
n.d.	-	-	-	-	-							
n d	_	_	_	_	_							

Fiber Identification:

none

									R	Refractive Index Determinations			IS
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

201905447

19-12119 GESD

Sample HA-GESD-0610-47 **Lab Number** 2019-05447- 47 **Sampled:** 6/10/2019

Analyzed By RAM 6/13/2019 # Layers 2 Homogeneous No

An? OK Apparent Smp Type Adhesive/caulk

Rubbery

Pos Layer? No Non-Fibrous Components (in approx. decreasing order): polymer, filler,

	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	brown	1
2	sealant	98	gray	1
	Total %	100		Overall %

		Percents of	FEach Fiber		
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-

Fiber Identification:

none

									R	efractive I	ndex Detei	minatior	าร
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

Sample HA-GESD-0610-48

Lab Number 2019-05447- 48

**Sampled:** 6/10/2019

Condition: acceptable

Condition: acceptable

Analyzed By RAM 6/13/2019

An? OK

Apparent Smp Type Adhesive/caulk

Rubbery

Homogeneous No

Pos Layer? No

# Layers 2

Non-Fibrous Components (in approx. decreasing order): polymer, filler,

L	ayers			
#	Layer Type	%	Color	Friability
1	paint	2	brown	1
2	sealant	98	gray	1
	Total %	100		Overall %

		Percents of	Each Fiber		
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
n d	_	_	_	_	_

Fiber Identification:

									_	- f A T.	D.4		
Ethana									K	erractive 1	ndex Deter	mination	iS
Fibers		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
	none												

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent.

5025 S. 33rd Street Phoenix, Arizona 85040-2816 Phone: 602-276-6139 1-800-743-2687 FAX: 602-276-4558

Page 25 of 28 Fiberquant, Inc.

201905447

19-12119 GESD

Sample HA-GESD-0610-49

**Lab Number** 2019-05447- 49

**Sampled:** 6/10/2019

Condition: acceptable

Analyzed By RAM Homogeneous No

6/13/2019

An? OK # Layers 3

Apparent Smp Type Wall System

Fibrous Solid

Pos Layer? No Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

l	Layers			
#	Layer Type	%	Color	Friability
1	paint	5	pink	1
2	plaster (top coat)	20	off-white	2
3	plaster (scratch coat)	75	gray	2
	Total %	100		Overall %

		Percents of	f Each Fiber		
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-
>1-2%	-	-	-	-	-
>1-2%	_	_	_	_	_

Fiber Identification:

synthetic fiber (extr

	<del></del>								R	efractive I	ndex Detei	minatior	าร
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	synthetic fiber (extruded)	W	E	N	N	Н	+	Р					
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

**Sample** HA-GESD-0610-50

**Lab Number** 2019-05447- 50

**Sampled:** 6/10/2019

Condition: acceptable

6/13/2019 Analyzed By RAM

An? OK

Apparent Smp Type Wall System

Fibrous Solid

Homogeneous No

# Layers 3

Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

	Layers			
#	Layer Type	%	Color	Friability
1	paint	5	pink	1
2	plaster (top coat)	15	off-white	2
3	plaster (scratch coat)	80	gray	2
	Total %	100	]	Overall %

Overall %
-----------

Percents of Each Fiber									
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6				
n.d.	-	-	-	-	-				
n.d.	-	-	-	-	-				
>1-2%	-	-	-	-	-				
4 80/									

Fiber Identification: synthetic fiber (extr

	<del></del>								R	efractive I	ndex Deter	minatior	15
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	synthetic fiber (extruded)	W	Е	N	N	Н	+	Р					
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

201905447

19-12119 GESD

SampleHA-GESD-0610-51Lab Number2019-05447-51Sampled: 6/10/20196/10/2019Condition: acceptableAnalyzed By RAM6/13/2019An? OKApparent Smp TypeWall SystemFibrous Solid

Homogeneous No # Layers 3 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): powder, rock, binder

L	ayers				Percents of Each Fiber								
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6			
1	paint	5	pink	1	n.d.	-	-	-	-	-			
2	plaster (top coat)	15	off-white	2	n.d.	-	-	-	-	-			
3	plaster (scratch coat)	80	gray	2	>1-2%	-	-	-	-	-			
	Total %	100		Overall %	>1-2%	-	-	-	-	-			

Fiber Identification: synthetic fiber (extr

	<del></del>								R	efractive I	ndex Dete	rminatior	ıs
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	synthetic fiber (extruded)	W	Е	N	N	Н	+	Р					
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of plaster matrix using acid.

 Sample
 HA-GESD-0610-52
 Lab Number
 2019-05447-52
 Sampled: 6/10/2019
 6/10/2019
 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Non-fibrous Solid

Homogeneous Yes # Layers 1 Pos Layer? No

 $\textbf{Non-Fibrous Components (in approx. decreasing order):} \ \ \textbf{filler, polymer,}$ 

	ayers						Percents o	f Each Fiber		
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	sealant	100	gray	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-

Fiber Identification: none

									R	efractive I	ndex Dete	rminatior	าร
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

 Sample
 HA-GESD-0610-53
 Lab Number
 2019-05447-53
 Sampled: 6/10/2019
 6/10/2019
 Condition: acceptable

Analyzed By RAM 6/13/2019 An? OK Apparent Smp Type Adhesive/caulk Non-fibrous Solid

none

Homogeneous No # Layers 2 Pos Layer? No

Non-Fibrous Components (in approx. decreasing order): filler, polymer, binder

L	ayers				Percents of Each Fiber							
#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6		
1	paint	2	off-white	1	n.d.	-	-	-	-	-		
2	sealant	98	gray	1	n.d.	-	-	-	-	-		
	Total %	100		Overall %	n.d.	-	-	-	-	-		

Fiber Identification:

									R	efractive I			
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

none

201905447

19-12119 GESD

Sample HA-GESD-0610-54 Analyzed By RAM

6/13/2019

Lab Number 2019-05447- 54

**Sampled:** 6/10/2019 Apparent Smp Type Adhesive/caulk

Condition: acceptable

Homogeneous Yes

100

Pos Layer? No

Non-fibrous Solid

# Layers 1 Non-Fibrous Components (in approx. decreasing order): filler, polymer,

	ayers			
#	Layer Type	%	Color	Friability
1	sealant	100	gray	1

Total %

none

		Percents of	Each Fiber		
Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
n.d.	-	-	-	-	-
n.d.	-	-	-	-	-

Fiber Identification:

Overall %

An? OK

							R	efractive I	ndex Dete	mination	IS
Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per

#### Sample Analytical Note

Fibers

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Fr=Friability: 1=very non-friable; 2= non-friable; 3=friable; 4=highly friable

Colors: B=black;BL=blue;BR=brown;CL=clear;G=Green;GY=gray;OR=orange;OW=off-white;PN=pink;PU=purple;R=red;TN=tan;W=white;Y=yellow;V=various
Fiber Morphology: A=fine fibers/bundles, white, sinewy, flexible; B=fine fibers/bundles, w-br, straight, broomed ends; C=fine fibers/bundles, blue, straight, broomed ends;
D=fine to coarse fibers, CL-B, brittle; E=coarse fibers,CL or dyed, striated; F=coarse fibers or splinters, W-BR, ribbon-like; G=lath-like or shards, low aspect ratio, may taper Iso=isotropism - may be yes or no; Pleo=pleochroism - may be yes or no; Bi=birefringence - may be None, Low, Medium or High Elg=sign of elongation - may be +, - or B (both); Ext=extinction - may be Parallel, Oblique, None or Undulating; Oil=medium used to for dispersion staining

Col Par=dispersion staining colors parallel to the fiber (fiber/halo): b/w=black/white; dg/py=dark gray/pale yellow; vg/y=violet gray/yellow; db/ly=dark blue/lemon yellow; vb/g= vivid blue/gold; sb/o=sky blue/orange; pb/r=pale blue/red; gb/dr=gray blue/dark red; w/b=white/black. Col Perp=same only perpendicular to fiber. RI Par=refractive index parallel to fiber; RI Perp=refractive index perpendicular to fiber

ROBERT A. McCORMICK

Printed: 13-Jun-19

Original Print Date: 13-Jun-19

Approved Accreditation Signatory

FIBEROUANT
ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.: Phoenix, AZ 85040: Phone: 602-276-6139: FAX: 602-276-4558: Info@fiberquant.com

# Analysis Request/Chain-of-Custody Form

Analysis Requesit	Chain-oj-Custoay Form
Submitted by (Company) HUTZ	ZEL AND ASSOCIATES
Address 1626 E AL	ICIA DRIVE
City, State, Zip Code PHOEN	IIX, AZ 85042
Phone (602) 323-0222	FAX
Email (Hollars	Q Hutzel. Net
Invoice to (Company)	// ERAP
Address	
City, State, Zip Code	
Phone	FAX
Contact (print) Colby	Hollars
Sampled by (signature)	14/11
Job Number or Project Name /9 -	12119 (DESD)
PO Number	

<analysis method="" requested=""> ONLY ONE METHOD per COC</analysis>				Turn-around-time (circle.one)				
ONLY ONE METHOD per COC			Rush		Norm	Ext.		
sbestos by PLM	Method > Analyze > If ATPF the Single Laye		ATPF Layer by Sample	Urgent Rush <3 hrs	<6 hrs	(Pays)	15- 30 days	
Fibers	Surgie Laye	PIOLOCOL	> res No					
by PCM	Method >	7400 (Are	a) ORM (Personal)	<4 h	rs	24 hrs	•	
	in Air >	AHERA	Mod. AHERA	<6 h	rs	24 hrs	3-5 days	
Asbestos by <b>TEM</b>	in Water* >	Water	Sludge	1-2 da	ıys	3-5	N/A	
Dy I EM	In Bulk (Annex2) > Chatfield Full Quant.					days	107	
	in Dust > ASTM D5755			3-5 days		5-10 days	N/A	
	Analyte >	Pb	Other	<6 turs				
Pb by FLAA	Matrix >	Filter > Paint > Soil >	MCE FG by Area (mg/cm²) by Weight (ppm)			2-3 days	N/A	
		Wipe >		į		i '		
	Initial here E1792 com		wipes used are ASTM					
	Air Sample	> Zef	on Aller Other					
Fungi	Buk >		ample Swab	<6 h	rs	1-2	N/A	
	Tape Lift >	Tape Lift > Qualitative (% & type) Quantitative (type/cm2)				days		
Soot	ASTM D660	Optical		<6 h	rs	1-2 days	N/A	
3000	MOUNTER TOOK	JZ*U3U	Optical & TEM	1-2 days		3-5 days	N/A	
Other				Cal	1	Call		

Sample #	f (1 per line)		Description/Location		Sample I	ate	Sample Time		Vol. or	Area
1)HAGESO	1-060-1	Calking	Floor to vail Blog	14	6-19-1	9		T		
2)	2				1					
3)	. 3		•							
4)	4	Wall sear	n calking Bldg	<i>A</i>						
5)	5									
6)	6									
7)	۲ ،	Window	calking / Bldg.	<i>A</i>						
8)	.8	1						T		
9)	4	-	•							
10)	10	Door Fra	me calking / Blo	19 A						
11)	1/		1							
12)	12				$\neg \neg$					
13)	13	5mosth (	mU Blda A.			-	7			
14)	ig		1							
15)	15		<u> </u>							
16)	16	Textured	CMU / Bldg. H							
17)	17	72/(/2/23								
18)	18	T								
19)	19	Over hang	Olaster / Blda A							
20)	20	The state of	L		4					$\mathcal{I}$
1)Relinquished	by J	Date	0- A Time: 12.06 3)Relinqu	ished by:			Date:		Time:	
2)Received by	and	Date	10.19 Time 2:05 4) Receive	d by:			Date:		Time:	
* TEN Water Required by	Sampler s nam State of Arizona	e Print Nam			Fiberquant Job F	assigned lumber>	20	190	544	
		Req <del>ue</del> st (Ini	tials): 711				Pa	ge c		

Important: By signing above you as Fiberquant's customer are agreeing to payment within 30 days unless other arrangements are made in writing. Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

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AN	ALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.: Phoenix, AZ 85040: Phone: 602-276-6139; FAX: 602-276-4558; Info@fiberquant.com

# Analysis Request/Chain-of-Custody Form

Tiruly 515 Alciju	con Chu	<i></i>	usiouy 1	UIII
Submitted by (Company)	UTZEL	AND A	ASSOCIA	TES
Address 1626 E	E ALICIA	DRIVE		
City, State, Zip Code PH	OENIX, A	Z 8504	2	
Phone (602) 323-02	22	FAX		
Email CHollac-	501	WIZE	(Net	
Invoice to (Company)	KAN) /	ERAP		
Address				
City, State, Zip Code				
Phone		FAX	<del></del>	
Contact (print) Colby	Holla	15		
Sampled by (signature)		-		
Job Number or Project Name	19-12	119	TESD	

PO Number

	<pre><analysis method="" requested=""> ONLY ONE METHOD per COC</analysis></pre>					Turn-around-time (circle one)		
ļ				- F-N,	Rus	h	Norm	Ext.
1		Method >	POPTOV	ed Interim	Urgent	<6	(VS	15-
J	Asbestos	Analyze >	Č AI	ATPF	Rush	hrs	ays	30
(	by PLM	II ATPF then	> by	Layer by Sample	<3 hrs		~	days
Ì	<b>~</b>	Single Layer	Protocol	> Yes No				
	Fibers by <b>PCM</b>	Method > 7	7400 (Are	a) ORM (Personal)	<4 h	rs	24 hrs	•
ſ		in Air >	AHERA	Mod. AHERA	<6 h	s	24 hrs	3-5 days
ı	Asbestos by <b>TEM</b>	in Water* >	in Water* > Water Studge			1-2 days		N/A
١	by ILM	in Bulk (Annex2) > Challield Full Quant.					days	
		in Dust > 1	Dust > ASTM D5755			3-5 days		N/A
I		Analyte >	Pb	Other				
١			Filter >	MCE FG			l	
ł	Pb by	. C C INIGHIA .	Paint >	by Area (mg/cm²) by Weight (ppm)	<6 hrs		2-3 N	N/A
1	FLAA		Soil >	oil >		]		
١			Wipe >		j			
l		Initial here o E1792 comp		ripes used are ASTM				
١		Air Sample >	Zel	on Aller Other				
ı	Fungi	Buk >	s	ample Swab	<6 h	rs	1-2	N/A
1		Tape Lift >	Q:	ualitative (% & type)	]		days	
l		Quantitative (type/cm2)						
	Soot ASTM D8802-03b		Optical	<6 h	rs	1-2 days	N/A	
			Optical & TEM		1-2 days		3-5 days	N/A
ſ	Other				Cal	1	Call	l

Sample	e # (1 per line)	Description/Location	Sample Time	Vol. or Area	
1)HA-GI	ESD - 0610-21	Overhung aluster & Bidg H	6-10-19		1
2)	1 -22	Overhang sjuster & Bidg H Drain calking	,		
3)	, 23				
4)	14		·		
5)	25	Ceeling Pluster 1018g L-E			
6)	26				
7)	٦,	<u></u>			
8)	28	Smooth CMU/ BIdg C-E			
9)	20				
10)	30				
11)	3,	Textured conv / Blog C-E			<del>                                     </del>
12)	32				
13)	33	<u></u>			<del>  </del>
14)	34	Vincow Calking & Bidg L-E			
16)	35			<del>-</del>	ļ ·
17)	36				ļ
18)	37	Bulling Seam & Bldg L-E	<b> </b>		<del>                                     </del>
19)	78				
	39	<b></b>	-		ļ <u>ļ</u>
20)		Smooth Emu / Maint.	4		
1)Relinguis	No de la companya della companya della companya de la companya della companya del	Pate: 12:10 3)Relinquished by:		Date:	Time:
2)Received	1 CO 2	Date: 0:19 Time: 2:10 4)Received by:		Date:	Time:
* TEN Wa	ter: Sampler's ham		Fiberquant assigned Job Number>	20190	5447
		Request (Initials): 87 1	•	Page o	f

Important: By signing above you as Fiberquant's customer are agreeing to payment within 30 days unless other arrangements are made in writing. Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

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ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rt St.: Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558; Info@fiberquant.com

# Analysis Request/Chain-of-Custody Form

2 277000 9 50	3 Alegaei	ou Chuin	-oj-Cusic	ouy rorm
Submitted by (Co	mpany) HU	TZEL A	ND ASS	OCIATES
Address	1626 E	ALICIA DI	RIVE	
City, State, Zip C	ode PHO	ENIX, AZ	85042	
Phone (60	2) 323-022	2 FA	X	
Email CA	loslars	Q Hut	Zd Nes	۷
Invoice to (Comp	any)	RM) / I	ERAP	<del></del>
Address				
City, State, Zip C	ode ·			
Phone		FA	x	
Contact (print)	Colby	Holl	ars	
Sampled by (sign	nature) $=$			9
Job Number or F	roject Name	1-1211	9 GE	50
PO Number				•

<analysis method="" requested=""> ONLY ONE METHOD per COC</analysis>				Turn-around-time (circle.one)				
ONLY ONE METHOD per COC			Rush		Norm	Ext.		
ASDESTOS W PLM	Method > Analyze > If ATPF then Single Layer		ATPF Layer by Samp	le	Urgent Rush <3 hrs	<6 hrs	(13) (23) (23) (23)	15- 30 days
Fibers by <b>PCM</b>	Method > 3	7400 (Are	a) ORM (Person	nal)	<4 h	rs	24 hrs	٠.
	in Air >	AHERA	Mod. AHE	RA	<6 h	rs	24 hrs	3-5 days
Asbestos by <b>TEM</b>	in Water* >	in Water* > Water Studge in Bulk (Annex2) > Chatfield Full Quant.			1-2 days		3-5 days	N/A
	in Dust > ASTM D5755			3-5 days		5-10 days	N/A	
Pb by FL <b>AA</b>	Matrix >		Other MCE FG by Area (mg/cm by Weight (ppn wipes used are As	n)	<6 h	rs	2-3 days	N/A
Fungi	E1792 compliant  Air Sample > Zefon Aller Other  Bulk > Sample Swab  Tape Lift > Qualitative (% & type)		- <6 hrs		1-2 days	N/A		
Soot	ASTM D860	1.	antitative (type/cn Optical	12)	<6 h	rs	1-2 days	N/A
	AS I M U660	2-030	Optical & TEM		1-2 da	ays	3-5 days	NA
Other					Cal	1	Call	

Sample # (1 per line) Description/Location			Sample Date	Sample Time	Vol. or Area
1)HA-6ESD	-2610-4	1 Smooth CMV / maint.	12-10-19		1
2) 1	42	<u> </u>			
, 3)	.43	Texture conv/maint.			
4)	44		•		•
5)	45	مسلي			
6)	40	Door Frank Calking & Maint.			1
7)	47				
8)	48	بمك			
9)	49	Parafit Plaster / Roof			
10)	50	1			<del></del>
11)	51				
12)	52	Paragit Calking / ROOF			
13)	33				
14)	54	<u> </u>	1		,
15) <sub>No. 580</sub>					
16)					
17)					
18)			'		
19)					
20)					
1)Relinquisited	Coll of	7 Time: 12'10 3)Refinquished by:		Date:	Time:
2)Recovedby:	590	Pate: 19 Time: 2:10 4)Received by:			Time: ,
Required by Si	Sampler's pam ate of Adzona	Name .	Fiberquant assigned Job Number>	20190	544/
Review of	Page o	Ī			

Important: By signing above you as Fiberquant's customer are agreeing to payment within 30 days unless other arrangements are made in writing. Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.



# Atomic Absorption Spectrometer (AAS) Analysis of Paint

JobNumber:

201905446

Client:

**HUTZEL AND ASSOCIATES** 

1626 E ALICIA DRIVE

PHOENIX, AZ 85042-0000 Office Phone: (602) 323-0222

FAX:

# Samples: 13 AA Rec: 6/10/2019 Method: Modified SW 846 3050b/7420 Pb in paint by weight AA Analysis

Client Job: 19-12119 GESD PO Number:

Report Date: 6/12/2019 Date Analyzed: 6/12/2019 Routing Number: -

Method and Analysis Information: Fiberquant Internal SOP: AApw

The received samples were analyzed for Pb (total) using "Test Methods for Evaluating Solid Waste" (SW 846, December 1996 updates). The extraction/digestion method was SW 3050b. The analytical method is "flame atomic absorption, direct aspiration", SW 7420. Briefly the procedures are as follows. The incoming paint samples are first homogenized by mixing and crushing. A sub-sample is weighed to 0.0001 gm into a 50ml centrifuge tube. To the run stream are added the quality assurance samples described below. Six mls of concentrated HNO3 and one ml of 30% H202 are added to each container. The tubes are caped and heated for 1 hour at 95 deg. C. After cooling, the contents of the centrifuge tube are brought up to exactly 25 mls, completing the digestion/extraction.

The sample and quality assurance extractions are then analyzed on a Thermo M5 flame atomic absorption spectrometer or a Perkin Elmer Aanalyst 200. The wavelengths and other instrumental settings are set according to the manufacturer's recommendations, or as otherwise specified in the published method. Absorptions are recorded from sample and standard solutions. A calibration curve is fitted to at least three standard solutions, and the concentrations of the sample extracts are calculated from the curve. The ppm (ug/gm) and weight percent for each sample is calculated from the sub-sample weight, extract volume, and extract concentration.

The results from this analysis is generally compared to either the HUD guidelines, in which a sample is positive if it contains >0.5% (5000 ppm) Pb, or the Consumer Products Safety Commission (CPSC) limit, in which a paint or surface coating containing greater than 90 ppm is defined as lead-containing. The expected coefficient of variation for this method is approximately 20-30%. The results are reported to two significant figures. The Sample Reporting Limit (RL) listed below is twice the Sample Detection Limit, which is calculated for each sample from the experimentally determined Method Detection Limit. The limit of reliable quantitation is generally regarded as five to ten times the limit of detection. Therefore, samples smaller than 0.1 gm may give results too near the CPSC standard to be reliable. Problems in analysis or other information is provided in the "Analytical Notes" below. Blanks, if analyzed, are treated the same as samples and are not used for correcting non-blank results.

The following on-going quality assurance program was followed to ensure reproducible and dependable results: All analysts are degreed chemists trained extensively in-house for at least six months prior to un-supervised runs. Blank matrix samples are analyzed at a rate of 5% (at least one per run). Reference standards are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. Spiked matrix samples are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. Duplicate samples are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. For each instrumental run, the spectrometer is checked for sensitivity and stability. The calibration standards are made fresh weekly, and checked each run against a calibration verification standard from another source. All calculations are performed twice - once in a calibration spreadsheet, and once during the report generation, and also checked by hand. All quality checks performed for these samples were in control except as detailed in the "Analytical Notes" below. Fiberquant participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) program, is accredited by AIHA-LAP, LLC for environmental lead in paint (Lab # 101593), and is recognized by the National Lead Laboratory Accreditation Program (NLLAP) for the analysis of Pb in paint. Accreditation does not imply endorsement by the EPA, any other United States governmental agency or any private agency or association. Each lab analysis refers only to the sample tested, and may not, due to the sampling process, be representative of the material sampled. This report may not be reproduced except in full, without the approval of Fiberquant Analytical Services.

Some results may have been calculated using client supplied data, such as volume or area sampled, for which Fiberquant assumes no liability for accuracy.

Job Analysis Notes:

5025 S. 33rd Street Phoenix, Arizona 85040-2816 Phone: 602-276-6139 1-800-743-2687 FAX: 602-276-4558

Page 1 of 2 Fiberquant, Inc.

## Calibration Curve:

Pb

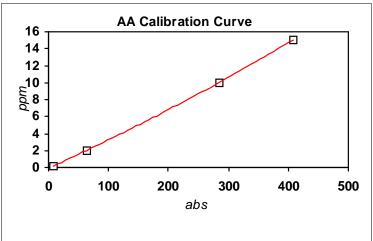
Run # 13627

Instrument: AA200

# 6/11/2019

Stand	lards:	ppm	avg. mAbs.
	1	0.2	8
	2	2	64
	3	10	284
	4	15	408
	-	13	700

ax2 0.00001237 bx 0.03190513 c -0.07090155 R2 0.99999396



#### **Analysis Results:**

Job Number: 201905446 AApw

Lab Number	Client Number	Date	Condition	Weight (gm)	ug/ml	ml	Dil	Analyte	wt %	ppm	RL(ppm)
2019-05446- 1	HA-GESD-0610-1 Pb	6/10/2019	acceptable	0.2376	0.0569	25	1	Pb	<0.0021	<21	21
2019-05446- 2	HA-GESD-0610-2 Pb	6/10/2019	acceptable	0.1944	0.121	25	1	Pb	<0.0026	<26	26
2019-05446- 3	HA-GESD-0610-3 Pb	6/10/2019	acceptable	0.2156	0.1530	25	1	Pb	<0.0023	<23	23
2019-05446- 4	HA-GESD-0610-4 Pb	6/10/2019	acceptable	0.0481	-0.007	25	1	Pb	<0.01	<100	100
2019-05446- 5	HA-GESD-0610-5 Pb	6/10/2019	acceptable	0.1571	-0.007	25	1	Pb	<0.0032	<32	32
2019-05446- 6	HA-GESD-0610-6 Pb	6/10/2019	acceptable	0.1866	-0.039	25	1	Pb	<0.0027	<27	27
2019-05446- 7	HA-GESD-0610-7 Pb	6/10/2019	acceptable	0.1211	-0.039	25	1	Pb	<0.0041	<41	41
2019-05446- 8	HA-GESD-0610-8 Pb	6/10/2019	acceptable	0.2057	-0.071	25	1	Pb	<0.0024	<24	24
2019-05446- 9	HA-GESD-0610-9 Pb	6/10/2019	acceptable	0.1994	0.0249	25	1	Pb	<0.0025	<25	25
2019-05446- 10	HA-GESD-0610-10 Pb	6/10/2019	acceptable	0.0462	-0.071	25	1	Pb	<0.011	<110	110
2019-05446- 11	HA-GESD-0610-11 Pb	6/10/2019	acceptable	0.1067	-0.071	25	1	Pb	<0.0047	<47	47
2019-05446- 12	HA-GESD-0610-12 Pb	6/10/2019	acceptable	0.1777	-0.071	25	1	Pb	<0.0028	<28	28
2019-05446- 13	HA-GESD-0610-13 Pb	6/10/2019	acceptable	0.1386	-0.071	25	1	Pb	<0.0036	<36	36

Analyst: MARTIN A. ESQUER

Printed: 12-Jun-19

Original Print Date: 12-Jun-19

Larry S. Piero, Approved Accreditation Signatory

FIBEROUANT
ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.: Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558; Info@fiberquant.com

Analysis Request/Chain-of-Custody Form
Submitted by (Company) HUTZEL AND ASSOCIATES
Address 1626 E ALICIA DRIVE
City, State, Zip Code PHOENIX, AZ 85042
Phone (602) 323-0222 FAX
Email CHOllass CO HUTZel. Net
Invoice to (Company) (ERM) / ERAP
Address
City, State. Zip Code
Phone FAX
Contact (print) Colby Mollar 5
Sampled by (signature)
Job Number or Project Name 19-12119 6ESD
PO Number

<analysis method="" requested=""> ONLY ONE METHOD per COC</analysis>					Turn-around-time (circle.one)			
			Rush		Norm	Ext.		
Asbestos by <b>PLM</b>	Method > Improved Interim			Urgent	<6	1-3	15-	
	Analyze >	AI	ATPF Layer by Sample	Rush	hrs	days	30 days	
	If ATPF then	<3 hrs			uays			
	Single Layer I	rotocol	> Yes No					
Fibers by <b>PCM</b>	Method > 74	<4 hrs		24 hrs	•			
Asbestos by TEM	in Air > AHERA Mod. AHERA			<6 hrs		24 hrs	3-5 days	
	in Water* > Water Studge			1-2 days		3-5 days	N/A	
l by Jei-i	in Bulk (Anne:							
	in Dust > ASTM 05755			3-5 days		5-10 days	N/A	
	Analyte > T		Other					
	Matrix >	Filter > MCE FG by Area (mg/cm²) Soil > Weight (ppm)		<6 tus		2-3 days	)va	
Pb by								
( FLAA/								
	_	/ipe >			1			
	Initial here certifying wipes used are ASTM E1792 compliant							
	Air Sample > Zefon Aller Other							
Fungi	Buk >	S	ample Swab	<6 hrs		1-2	N/A	
	Tape Lift > Qu		salitative (% & type)			days		
	Quantitative (type/cm2)							
Soot	ASTM D6602-03b		Optical	<6 hrs		1-2 days	N/A	
			Optical & TEM	1-2 days		3-5 days	N/A	
Other				Cal		Call		

Sample # (1 per line)	Description/Location	Sample Date	Sample Time	Vol. or Area
1) HA-6ESD-0610-1A		6-10-19	1	/
2) 2 96	Gleen Quint/CMU/Bldg. A.	(g - (g) - (q		<del>                                     </del>
3) 3Pb				/
4) 493	Green patent / metal vall / B'da A			1
5) 603	Black paint / DAOC / Bldg A			<del>                                     </del>
6) (10)	Black Paint / Door France / Bldg A			
7) 726	Tan Daint / Railing/constand			/
8) EPB	Tan Paint/Stage dos		1	
9) 4 Ph	Tan plaster   Bldg E			
10)	Green Paint Vater drain 8149	5		
11) 116/	Tan grint / metal posts / Blda E			
12) 12 96	Tan paint / Pailing / maint	]		
13) 13 06	Tan Paint / Decimeter fence/mail	1.4		
14)				
15)				
16)				
17)				
18)				
19)				
20)				
1)Relinquished by:	Date: 19 Time: 12:0 3)Relinquished by:		Date: 1	Time:
2)Becelvey by:	Pate: 10 - 19 Time: -01 4)Received by:		Date:	fime:
* Required by State of Arizona	Print Name	Fiberquant assigned Job Number>	20190	5446
Review of Analysis-I	Request (Initials):		Page of	

Important: By signing above you as Fiberquant's customer are agreeing to payment within 30 days unless other arrangements are made in writing.

Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.