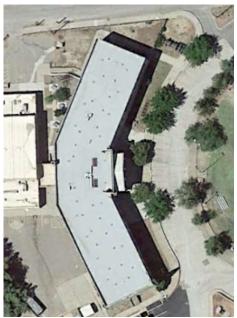


### ASBESTOS CONTAINING MATERIAL SURVEY REPORT OF HISTORIC BULLION PLAZA CULTURAL CENTER AND MUSEUM

FUNDED BY: COPPER CORRIDOR BLIGHT BUSTERS USEPA BROWNFIELDS COALITION ASSESSMENT GRANT



150 NORTH PLAZA CIRCLE MIAMI, GILA COUNTY, ARIZONA 85539 APN: 204-15-012A

### ATLAS PROJECT NO. 1052000242, PHASE 4

### REPORT DATE: February 10, 2023

Prepared by:

Prepared for:

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# Project Responsibility

This report has been prepared consistent with good customary industry practices for the evaluation of asbestos-containing materials (ACM) in structures scheduled for renovation. Atlas Technical Consultants LLC (Atlas) presents the data from this Asbestos Survey, based on the conditions observed during the site survey conducted from November 16 through November 18, 2022. Atlas makes no determinations and warrants no conclusions beyond those stated herein. Further, Atlas submits this report to Copper Corridor Blight Busters Coalition (CC BB Coalition) for the exclusive use of CC BB Coalition and the United States Environmental Protection Agency (USEPA) Region IX.

Atlas appreciates this opportunity to assist CC BB Coalition with this project. Thank you for allowing our firm to perform these consulting services. Your business is important to us and we sincerely appreciate your patronage. Please contact the undersigned if you have any questions or need additional information.

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# Executive Summary

The Copper Corridor Blight Busters Coalition (CC BB Coalition) authorized Atlas Technical Consultants LLC (Atlas) to conduct an Asbestos Survey, collectively referred to as "the Survey," of the Historic Bullion Plaza Cultural Center and Museum; hereinafter, referred to as the Site. The assessment was funded by the United States Environmntal Protection agendy (USEPA) Grant awarded to the CCBB Coalition. The purpose of the Survey was to determine the asbestos content of suspect asbestos-containing materials (ACMs) that may be impacted by future renovations, additions or demolitions of the structures at the Site.

Mr. Chad Wells and Mr. Thomas Nelson, Atlas Asbestos Hazard Emergency Response Act (AHERA) accredited building inspectors, conducted this survey from November 16 to November 18, 2022. A summary of the identified ACM at the Site during Atlas' Survey are noted in Tables E-1.

	Table E-1:	Identifed ACM Historic Bullion Plaza Cultural Center and Museum
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Summary of Identified ACM Historic Bullion Plaza Cultural Center and Museum 150 North Plaza Circle Miami, Arizona 85539 Survey Date: November 16-18, 2022							
Sample No.	Homogenous Material		Asbestos Content	Friable	Condition	Quantity	NESHAP Category
*F19-A *F19-B *F19-C	Floor Tile & Mastic – 12"x12", Cream with Light Gray Streaks and Black Mastic	1 <sup>st</sup> Floor Breakroom Bathroom (2 rooms)	Floor Tile - 2.30 to 2.53% % Chrysotile by TEM Black Mastic - 1.08 to 1.25% Chrysotile by TEM	No	Good	60 SF	CAT I/CAT II
*M1-A *M1-B *M1-C	**Pipe Insulation -White Powdery Chalky	Basement / Crawl Space	Pipe Insulation = 50% Chrysotile by TEM	Yes	Fair to Poor	600 LF	RACM

% = Percent; SF = Square Feet; CAT I = Category I Non-Friable ACM; CAT II = Category II Non-Friable ACM; RACM = Regulated Asbestos Containing Material; PLM=Polarized Light Microscopy; TEM= Transmission Electron Microscopy; \* = Sample also analyzed by TEM

The results of this Survey indicate that ACM is present within Building and must be removed/abated prior to renovation and/or demolition.-

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# 1 Project Information

The Copper Corridor Blight Busters Coalition (CC BB Brownfields Coalition) authorized Atlas Technical Consultants LLC (Atlas) to conduct an asbestos survey at the historic Bullion Plaza Cultural Center and Museum located at 150 North Plaza Circle in Miami, Gila County, Arizona; hereinafter, referred to as the Site. The purpose of the Survey was to determine the asbestos content of suspect asbestos-containing materials (ACMs) that may be impacted by the upcoming planned renovation and/or demolition of the structures at the Site.

This Survey was conducted in general accordance with CC BB Coalition Sampling and Analysis Plan, dated April 30, 2022, and approved by the United States Environmental Protection Agency (USEPA) in July 2022.

Mr. Chad Wells and Mr. Thomas Nelson, Atlas USEPA Asbestos Hazard Emergency Response Act (AHERA) accredited building inspectors, conducted this survey from November 16 to November 19, 2022. Copies of their certifications are included in Appendix A.

## 1.1 Site Description

The Site is located at 150 North Plaza Circle, Miami, Gila County, Arizona 85539. The Site is improved with one approximately 48,000 square-foot two-story building with a basement. The historic building was designed by Henry C. Trost Architects and Engineers of El Paso, Texas with a neoclassical architectural design. The building was constructed in 1923 and was opened as a grammar school from 1934 until 1994. In 1997, the Town of Miami purchased Bullion Plaza from the school district and committed to using it as a cultural center and museum. The building was accepted for listing in the National Register of Historic Places in 2000. The surrounding area primarily consists of residential and commercial uses. The Site Plan with floor plan layouts are included in Appendix B.

### 1.2 Asbestos Hazard Background

Asbestos is a hazardous substance. Its condition, handling and disposal are regulated by Federal, State, and local agencies. ACMs generally do not pose a health threat unless the asbestos fibers are disturbed, become airborne and are inhaled. Contractors working in an area where asbestos is present must be informed of the type and location of ACMs. Abatement of ACMs, including non-friable ACMs, must be performed by a licensed, certified and registered asbestos abatement contractor in accordance with State and Federal Occupational Safety and Health Administration (OSHA) and local air quality management regulations.

# 2 Asbestos Survey

CC BB Brownfields Coalition authorized Atlas to perform an Asbestos Survey (the Survey), at the Site. The purpose of this Survey was to identify ACM that may be impacted by future renovation and/or demolition of the building. The asbestos survey was performed between November 16 and November 18, 2022, by Mr. Chad Wells, and Mr. Thomas Nelson, Atlas AHERA accredited building inspectors.

The Survey was conducted in compliance with all applicable Federal, State and local regulations including regulations promulgated under the USEPA AHERA, the National Emissions Standard for Hazardous Air Pollutants (NESHAP) and the OSHA Construction Industry Standard as defined in 29 Code of Federal Regulations (CFR) 1926.1101.

## 2.1 Prior Asbestos Sampling Reports

Atlas was provided a prior asbestos survey report for the Site, *Asbestos and Lead Survey Report of 150 North Plaza Circle in Miami, Arizona* by AMEC Foster Wheeler Environment & Infrastructure, Inc. (AMEC) dated October 20, 2016. The 2016 prior asbestos survey report sampled only the basement level of the Site, which included four areas described as entry, boiler room, left room and right room as well as crawlspace under two wings of the building. AMEC identified 17 suspect ACMs and collected a total of 45 samples during the survey. Of the 15 suspect materials, five were identified as ACMs. The table below summarizes the ACMs identified by AMEC in the October 2016 survey report.

	Summary of ACMs Identified by AMEC Historic Bullion Plaza Cultural Center and Museum 150 North Plaza Circle Miami, Arizona 85539 Survey Date: October 2016						
Sample No.	Homogenous Material	Material Location	Asbestos Content	Friable	Condition	Quantity	NESHAP Category
3A-C	Pipe Run Insulation Straight Runs	Basement - Straight Runs throughout basement and crawlspaces	50-80 % Chrysotile	Yes	Poor	400 SF	RACM
4A-C	Pipe Elbows	Basement – Pipe Elbows	10-20% Chrysotile	Yes	Poor	15 Each	RACM
15A-C	Gray Gasket	Basement –Boiler Room Gasket	30-40% Chrysotile	No	Fair	2 Each	CAT 1
Assumed ACM	Boiler Insulation Wrap	Basement –Boiler Room	Assumed ACM	Yes	Fair	2 Each	RACM
Assumed ACM	Disposed Bags of Removed Building Materials	Basement	Assumed ACM	No	NA	NA	CATI
,	SF = Square Feet; CAT I Non-detect, NA = Not		CM; CAT II = Category II Non-Fr	riable ACM; R.	ACM = Regulate	ed Asbestos C	ontaining

AMEC noted that pipe run insulation was in poor condition and had deteriorated in the basement rooms and crawlspaces. Give the condition, it is possible the surrounding building materials, material stored in the areas and the bare soil may be impacted by asbestos from the deteriorated pipe insulation.

AMEC recommended that ACMs be removed by a licensed asbestos abatement contractor. Surfaces in the basement and materials stored in the basement should be cleaned of visible dust which may contain asbestos. The crawlspaces should also be cleaned by an abatement contractor.

In addition to this prior report, Atlas was provided email correspondence and abatement bids for the Site. In an email dated November 14, 2017, from Mr. Dylan Whitwer, Environmental Specialist with GeoTek, Inc to Arizona Department of Environmental Quality (ADEQ) and Town of Miami representatives, Mr Whitwer stated "last, week the remainder of the TSI, boiler, associated pipe runs/elbow, ACM debris bags and other miscellaneous debris were abated and disposed of at their appropriate landfills." GeoTek was reportedly waiting for the landfills to send back the signed waste manifest.

During the survey, Atlas verified with Mr. Thomas N. Foster, Executive Director and Founding Member of Bullion Plaza Cultural Center and Museum, stated that the boiler wrap insulation/boiler, gaskets, pipe elbows and pipe run insulation were abated in the Basement boiler room in 2017. Additionally, the bags of removed building materials that were assumed ACM were also abated. The boiler wrap insulation, boiler, gaskets, pipe elbows and pipe run insulation were not present in the basement boiler room during Atlas' 2022 survey. Atlas requested that ADEQ, Gila County and the Town of Miami provide any records or report of the 2017 abatement activities. Aside from the email GeoTek, Inc dated, November 14, 2017 discussed above no other records of the abatement activities were provided to Atlas for review.

### 2.2 Asbestos Sampling Methodology

The location of samples collected for laboratory analysis of asbestos content are shown on the sample location maps included in Appendix B. These plans show the location of floor and wall samples, ceiling samples, and samples of miscellaneous material. Appendix B also contains ACM location maps based on the results of this Survey.

### 2.2.1 <u>Homogeneous Areas</u>

Prior to collecting any samples, homogeneous areas (HAs) were identified and listed to develop a sampling strategy. An HA can be described as one or more areas of material that are similar in appearance and texture and that have the same installation date and function. The actual number of samples collected from each HA may vary, based on the type of material and the professional judgment of the inspector.

### 2.2.2 <u>Condition Assessment Factors</u>

From the list of suspect homogeneous materials, a condition assessment was performed for each material on the list. A condition assessment includes evaluating the condition and determining the friability of each material. By definition, "friable" materials are those that can be crumbled or reduced to powder by hand pressure when dry. Each material on the list was further classified into one of three categories, which have specific sampling requirements for each category.

Surfacing Materials:	Refers to spray-applied or troweled surfaces such as plaster ceilings and walls, fireproofing, textured paints, textured plasters, and spray-applied acoustical surfaces.
Thermal System Insulation:	Refers to insulation used to inhibit heat gain or loss on pipes, boilers, tanks, ducts, and various other building components.
Miscellaneous Materials:	Refers to friable and non-friable products and materials that do not fit in any of the above two categories such as resilient floor covering, baseboards, mastics, adhesives, roofing material, caulking, glazing, and siding. This category also contains wallboard and ceiling tile.

All confirmed ACMs were then assessed by their condition as good, fair, or poor (damaged). Material with localized significant damage was also assessed as poor when observed.

### 2.2.3 <u>Sampling Strategy</u>

The survey was conducted in general accordance with the AHERA requirements using a minimum number of samples collected from each HA, which also meets the sampling requirement found in 29 CFR 1926.1101.

Sampling strategy was executed with primary emphasis on the "3-5-7 rule." Sample collection depends on the category that the HA falls into and the amount of material present, as shown in the table below.

HA CATEGORY	HA SIZE	SAMPLES REQUIRED
	<1,000 SF	3
Surfacing Materials	1,000 - 5,000 SF	5
	>5,000 SF	7 or more
Thermal System Insulation	No Stipulation	3+ (Must also sample all repair patches)
Miscellaneous Materials	No Stipulation	Per AHERA, these materials must be sampled "in a manner sufficient to determine whether or not they contain asbesto typically 1 – 3 samples based upon inspector judgment.

### Table 2-1Asbestos Sampling Strategy

Once the HAs were identified for each similar material, the required quantity of bulk samples of each suspect ACM were collected for subsequent analysis. Bulk samples were collected by spraying the suspect material with water, where appropriate, removing a small portion of the material and placing it into a laboratory-provided or generic zip-lock plastic bag. Sample containers were marked with a unique identification number, which is also noted in the field notes. Materials visually determined to be non-asbestos (i.e., unpainted metal, glass, wood, etc.) by the accredited inspector were not sampled. Samples were handled according to accepted procedures for the collection, packaging, chain-of-custody documentation and transport of bulk samples to the laboratory for analysis.

Miscellaneous materials require adequately representative sampling, which is typically done by collecting from one to three samples per material. Inspectors typically rely on other survey observations such as the condition, friability, and quantity of material to determine what would be a sufficient amount of samples to accurately evaluate the presence or absence of asbestos content.

Atlas collected a total of 119 bulk samples at the Site that were analyzed by the analytical laboratory as 180 layers based on the number of distinct layers (materials) associated with each bulk sample. For example, floor tile and associated mastic are collected as one bulk sample, but are analyzed as two distinct materials by the asbestos laboratory as required by National Voluntary Laboratory Accreditation Program (NVLAP) guidelines.

Samples were submitted to Eurofins EMLab P&K (EMLab) in Phoenix, Arizona EMLab is NVLAP-accredited laboratory for asbestos analysis. EMLab NVLAP code is 500031-0. A copy of the accreditation for EMLab is included in Appendix A.

A total of 180 samples were submitted to EMLab for analysis using Polarized Light Microscopy (PLM) in accordance with the USEPA *"Method for the Determination of Asbestos in Bulk Building Materials" (USEPA/600/R93/116, July 1993)*.

Any material that was determined to contain less than one percent (<1%) asbestos by PLM is not considered to contain asbestos. Conversely, materials that tested greater than one percent (>1%) asbestos are ACM and must be handled according to OSHA, USEPA, and applicable state NESHAP and local regulations.

Friable materials often require additional analyses to determine asbestos content. If friable materials are determined, via PLM analytical method, to be "non-detectable (ND) for asbestos fibers," no further verification of the sample results are needed. If friable materials are determined, via PLM analytical method, to contain "Trace" or less than 10% asbestos, the material may require further verification of the amount by Point Counting Methods. The Point Count method has a greater precision range than the standard PLM method. By subjecting the material exhibiting trace amounts of asbestos fiber to further Point Count analyses, a refinement of the asbestos content may be achieved and potentially the elimination of a material from ACM status may result. Materials analysed by PLM as less than 1% were sent for 400 point count analysis to determine if they needed to be classified as ACM.

For non-friable materials, when the amount of asbestos in the sample material is reported at greater than 1% by PLM analysis, no further verification of the sample results by alternative methods of identification such as Transmission Electron Microscopy (TEM) Chatfield method is recommended.

For non-friable materials, when the amount of asbestos in the sample material is reported as "None-Detected" or less than 1% by PLM analysis, due to the difficulty in analyzing non-friable or resinously bound materials, Atlas recommends that these types of materials, which were reported as non-ACMs by PLM, be analyzed using TEM Chatfield method. Floor tiles that were analysed as non-detect by PLM were submitted for TEM Chatfield analysis to verify that they did not contain asbestos.

Materials determined by laboratory analyses to contain asbestos were properly classified as either Regulated Asbestos Containing Materials (RACM), Non-Friable Category I (CAT I) or Non-Friable Category II (CAT II), per USEPA NESHAP regulations, Title 40 CFR Part 61, Subpart M, Asbestos.

### 2.3 Results of Asbestos Survey

Results of laboratory analysis of samples are included in Appendix C. Asbestos Sample Location Maps and ACM Location Maps are included in Appendix B. Atlas has presented the appropriate NESHAP categories for identified ACM in the following tables to assist with the planning of future renovation and/or demolition activities. The NESHAP category was not determined for non-ACM building materials.

A total of 119 representative bulk samples of suspect ACMs were collected from 35 identified HAs at the Site. Subsequent laboratory analyses determined that 33 of the HAs were not considered ACM. Laboratory analyses confirmed two HA was identified as an ACM. Atlas has denoted the applicable NESHAP categories of CAT I, CAT II or RACM for the identified ACM.

	e 2-2 Aspestos Sa	mpling Results						
	Summary of Identified ACM Historic Bullion Plaza Cultural Center and Museum 150 North Plaza Circle Miami, Arizona 85539 Survey Date: November 16-18, 2022							
Sample No.	Homogenous Material	Location/ Functional Space	Asbestos Content	Friable	Condition	Approx. Quantity	NESHAP Category	
Flooring N	1aterials							
F1-A F1-B F1-C	Residual Floor Mastic – Yellow (over plank flooring)	Rooms - 243, 250, 251, 254	ND	No	NA	NA	NA	
F2-A F2-B F2-C	Carpet & Mastic – Blue Fibrous with Yellow Mastic	Rooms -244, 246, 1 <sup>st</sup> Floor George and Hazel Cox Room, Native American Exhibit	ND	No	NA	NA	NA	
F3-A F3-B F3-C	Carpet & Mastic – Rust Fibrous with Yellow Mastic	South 2 <sup>nd</sup> Floor Corridor Hall, North Hall, 2 <sup>nd</sup> Floor South Stairwell Landing	ND	No	NA	NA	NA	
F4-A F4-B F4-C	Stair Tread and Mastic – Red with Black Mastic	Stairwells	ND	No	NA	NA	NA	
F5-A F5-B F5-C	Carpet & Mastic - Burgundy Carpet with Yellow Mastic and Light Brown Woven Material	North 2 <sup>nd</sup> Floor Corridor	ND	No	NA	NA	NA	
F6-A F6-B F6-C	Vinyl Sheet Flooring, 3'x3' Sections, Light Gray Marble	2 <sup>nd</sup> Floor Lobby	ND	No	NA	NA	NA	
*F7-A *F7-B *F7-C	Floor Tile & Mastic – 12"x12' Red with Mottling Tile and Yellow Mastic	Stairwell Landing (3)	ND	No	NA	NA	NA	
F8-A F8-B F8-C	Flooring Coating- Beige	1 <sup>st</sup> Floor Lobby behind Stairwell Center Exit Area	ND	No	NA	NA	NA	
F9-A F9-B F9-C	Carpet & Mastic – Brown Fibrous with Yellow Mastic and Light Brown Woven Material	1 <sup>st</sup> Floor Lobby, Research Room, Gift Shop	ND	No	NA	NA	NA	
F10-A F10-B F10-C	Vinyl Sheet Flooring - Multi-Colored Green, Beige, Tan	Military, Inspiration Hospital Area	ND	No	NA	NA	NA	
F11-A F11-B F11-C	Epoxy Coated Concrete with Expansion Joint	Mining Hall	ND	No	NA	NA	NA	
F12-A F12-B F12-C	Ceramic Tile & Grout – Mosaic Brown and Beige	Men/Boys & Women's/Girls Restrooms	ND	No	NA	NA	NA	
F13-A F13-B F13-C	Carpet & Mastic – Tan Fibrous with Yellow Mastic	Mineral Hall	ND	No	NA	NA	NA	

### Table 2-2 Asbestos Sampling Results

### Asbestos Survey Report Copper Corridor Blight Busters Coalition Historic Bullion Plaza Cultural Center and Museum

	Summary of Identified ACM Historic Bullion Plaza Cultural Center and Museum 150 North Plaza Circle Miami, Arizona 85539 Survey Date: November 16-18, 2022							
Sample No.	Homogenous Material	Location/ Functional Space	Asbestos Content	Friable	Condition	Approx. Quantity	NESHAP Category	
F14-A F14-B F14-C	Carpet & Mastic – Green Fibrous with Yellow Mastic	Governor Rose Moffott Exhibit and Slavic Cultural Exhibit	ND	No	NA	NA	NA	
F15-A F15-B F15-C	Vinyl Sheet Flooring – Light Gray Tile Marble-like Design	Slavic Cultural Exhibit	ND	No	NA	NA	NA	
F16-A F16-B F16-C	Ceramic Tile & Grout – 2'x2', Tan Tile with Gray Grout	South Exit, 1 <sup>st</sup> Floor	ND	No	NA	NA	NA	
F17-A F17-B F17-C	Carpet & Mastic – Beige Fibrous with Yellow Mastic	Library/Archives	ND	No	NA	NA	NA	
F18-A F18-B F18-C	Concrete Gray with Multilayered Coating	Foundation, Basement	ND	No	NA	NA	NA	
*F19-A *F19-B *F19-C	Floor Tile & Mastic – 12"x12", Cream with Light Gray Streaks and Black Mastic	1 <sup>st</sup> Floor Breakroom Bathroom (2 rooms)	Floor Tile - 2.30 to 2.53% % Chrysotile by TEM Black Mastic - 1.08 to 1.25% Chrysotile by TEM	No	Good	60 SF	CAT I/ CAT II	
F20-A F20-B F20-C	Ceramic Tile - 1" White, Octagon Shape	Custodial Closet	ND	No	NA	NA	NA	
Wall Syste	ems							
W1-A W1-B W1-C W1-D W1-E W1-F W1-F	Plaster Walls – Eggshell Texture Finish, Skim Coat with Multilayered Paint	Walls Throughout	ND	No	NA	NA	NA	
W2-A W2-B W2-C W2-D W2-E	Plaster Walls – Sandy Texture Finish with White Paint	Room Closest in Selected Room - 243, 244, 245, 242, 246, 248, 249, 253, 250, 251, 1 <sup>st</sup> Floor Slavic Cultural Exhibit, George & Hazel Cox Ranching Exhibit	ND	No	NA	NA	NA	
W3-A W3-B W3-C	Vinyl Covered Drywall – White (Faux Brick)	1 <sup>st</sup> Floor Mexican Cultural/Local Exhibit, Fire Exhibit, Military, Inspiration Hospital Area	ND	No	NA	NA	NA	
W4-A W4-B W4-C	4" Black Covebase & Brown Mastic -	1 <sup>st</sup> Floor Lobby, 2 <sup>nd</sup> Floor Corridor and Halls	ND	No	NA	NA	NA	
W5-A W5-B W5-C	Glazed Wall Tile – 6" White Tile	Men/Boys & Women's/Girls Restrooms	ND	No	NA	NA	NA	
W6-A W6-B W6-C	Concrete- Gray	Basement Wall Throughout	ND	No	NA	NA	NA	
W7-A W7-B W7-C	Brick & Mortar – Red Brick with Gray Mortar and White Compound with Yellow Mastic	Basement Walls	ND	No	NA	NA	NA	

### Asbestos Survey Report Copper Corridor Blight Busters Coalition Historic Bullion Plaza Cultural Center and Museum

Summary of Identified ACM Historic Bullion Plaza Cultural Center and Museum 150 North Plaza Circle Miami, Arizona 85539 Survey Date: November 16-18, 2022							
Sample No.	Homogenous Material	Location/ Functional Space	Asbestos Content	Friable	Condition	Approx. Quantity	NESHAP Category
Ceiling Ma	iterials						
C1-A C1-B C1-C C1-D C1-E C1-F C1-G	Plaster Ceiling – Eggshell Texture	Ceiling Throughout Building – above drop ceilings as well as 1 <sup>st</sup> and 2 <sup>nd</sup> Floors	ND	No	NA	NA	NA
C2-A C2-B C2-C C2-D C2-E C2-F C2-G	Acoustical Ceiling Panel – 2'x4', pinhole and fissures	1 <sup>st</sup> Floor Lobby and Corridors, 2 <sup>nd</sup> Floor Lobby and Corridors/Halls	ND	Yes	NA	NA	NA
C3-A C3-B C3-C	Fiberboard Ceiling – Cork-like with multilayered paint	1 <sup>st</sup> Floor Inspiration Room	ND	No	NA	NA	NA
C4-A C4-B C4-C	Concrete –Gray	Basement Ceiling Throughout	ND	No	NA	NA	NA
	eous Materials			•			1
*M1-A *M1-B *M1-C	**Pipe Insulation –White Powdery Chalky	Basement / Crawl Space	Pipe Insulation = 50% Chrysotile by TEM	Yes	Fair to Poor	600 LF	RACM
M2-A M2-B M2-C	Patch Material – White, Chalky	Basement	ND	No	NA	NA	NA
M3-A M3-B M3-C	Window Glazing Compound - Red/Gray, Brittle with Gray Non- Fibrous Material	Basement Window (2)	ND	No	NA	NA	NA
M4-A M4-B M4-C	Transite Panel – Green (Chalk Boards)	2nd Floor - Rooms - 243, 246	ND	No	NA	NA	NA

colors identified within the lab report.

\*\*It should be noted that the pipe insulation in the Basement and Crawl Space was noted to be in fair to poor condition and had deteriorated in the crawlspace. Given the condition of the pipe insulation, it is possible that the surrounding materials and the bare soil may be impacted by asbestos from the deteriorated pipe insulation.

## 2.4 Sampling Limitations and Exclusions

Atlas was unable to conduct a destructive investigation (cutting selective access holes in walls, ceilings, pipe chases, mechanical equipment, etc.) to assess concealed materials that were not readily apparent. Atlas could not conduct fully destructive investigation on floors to identify multi-layered tile/underlayment systems/concealed paper, vapor barriers, floor tiles/mastics under wood floor systems even though we attempted to classify multiple layers when noted. Atlas was unable to conduct destructive investigation of doors in the building to determine if the doors were insulated for fire-rating purposes.

Additional ACM may be present at the Site in inaccessible or concealed spaces. These spaces include, but are not limited to, pipe chases, spaces between wall/ceiling/door/floor cavities, interior of mechanical components such as boiler cavities, interior ducts, beneath foundation pads, etc. If the buildings are being demolished, Atlas recommends that all unidentified materials should be treated as assumed ACM, until analytical tests prove otherwise.

As agreed with the CC BB Brownfields Coalition, prior to the commencement of this ACM survey, Atlas was to exclude sampling of the roofing. Under separate cover, Atlas will provide an ACM Operations and Maintenance Plan for the inaccessible, concealed, and roofing areas excluded from the survey.

Prior to any disturbance of the assumed ACMs in this report, Atlas recommends sampling them to test for the presence of asbestos.

A lead-based paint survey was conducted at the Site as part of this scope of work. Information regarding the lead-based paint survey results will be presented in a separate report.

## 2.5 Asbestos Regulatory Standards

OSHA and USEPA regulate airborne levels of asbestos fibers. These governmental agencies have promulgated standards for permissible airborne concentrations of asbestos fibers and specific requirements for repair and abatement. The laws are designed to protect the worker (OSHA) and the general environment (USEPA). In addition, each state may have adopted its own requirements, which may be more stringent than those called for by OSHA or the USEPA.

OSHA established an asbestos general industry standard in 1971, primarily directed toward industrial applications, as found in 29 CFR 1910.1001. In response to the growing asbestos abatement industry and the additional concern regarding asbestos exposure, a standard for the construction industry (29 CFR 1926.58) became effective on July 21, 1986. These standards specifically outline asbestos removal procedures, respirator selection and fit testing, air sampling, the analysis of asbestos air samples, and employee protection from exposure to airborne asbestos fibers. The standards include a time-weighted average (TWA) permissible exposure limit (PEL) of 0.2 fibers per cubic centimeter of air (f/cc), and a short-term excursion limit of 1.0 f/cc. Concentrations above these levels require specific employer-initiated activities such as instituting a respiratory protection program and medical surveillance for exposed employees.

OSHA changed these standards in October of 1994 to include the reduction of the PEL for an 8-hour TWA to 0.1 f/cc in its revised construction industry standard of 29 CFR 1926.1101 and the revised general industry standard 29 CFR 1910.1001. These revisions specify that building owners are now required to communicate to employees, subcontractors, and tenants the location and quantity of ACM identified in this survey.

The USEPA has established regulations regarding renovation and demolition projects. These regulations are known as the Asbestos NESHAP regulations found in Title 40, CFR, Part 61, Subpart M. The USEPA Asbestos NESHAP regulations require a thorough inspection for the presence of asbestos prior to any demolition and/or renovation activity. If any asbestos is identified over the established threshold amounts, the USEPA requires a renovation notification to the proper regulatory jurisdiction, proper handling and disposal of any friable ACM or RACM, and the deposit of the asbestos-containing waste material (ACWM) at an approved landfill. In addition, if any structural or load-bearing demolition (total or partial demolition of the building) will occur during the course of the project, a demolition notification must be submitted to the proper regulatory jurisdiction and the friable ACM or RACM must be removed prior to the demolition activity.

Because the Site is located in Gila County, it falls within the ADEQ NESHAP program jurisdiction. According to the ADEQ asbestos NESHAP program, for all demolitions (even when no asbestos is present) and renovation activities involving threshold amounts of RACM, provide the Asbestos NESHAP agency overseeing the project site with a NESHAP notification at least 10 working days prior to the demolition or renovation activity. Threshold amounts of RACM are:

- 260 linear feet or more on pipes
- 160 square feet or more on other facility components
- 35 cubic feet or more off facility components

There are no state notification or permitting fees involved with this program for jurisdictional counties.

## 2.6 Asbestos Recommendations and Conclusions

Atlas recommends that identified ACM be removed by a qualified asbestos abatement contractor prior to the renovation and/or demolition of the Site buildings.

Atlas recommends an Asbestos Abatement Specification be prepared for use in obtaining bids for the asbestos abatement and subsequent demolition of the buildings.

Contractors and employees working in this building should be made aware of the possibility that concealed ACMs may be found during demolition. They should be advised not to disturb known or suspect ACMs without owner approval.

At the present time, if any renovation or demolition activities are planned and additional suspect ACM is encountered in inaccessible or concealed areas, these materials should be assumed to be ACMs and treated as such until properly sampled by a qualified individual.

The USEPA has not prohibited the manufacture and import of miscellaneous materials containing asbestos, such as vinyl floorings, mastics, roofing materials, etc. As a result, any future replacement materials should be checked for the presence of asbestos prior to installation.

### 2.7 Asbestos Assumptions and Limitations

The results, findings, conclusions, and recommendations expressed in the report are based only on conditions that were noted during Atlas' survey of the Site. This survey was conducted from November 16 through November 18, 2022.

The selection of sample locations and frequency of sampling was based on Atlas' observations and the assumption that like materials in the same area were homogeneous in content. Destructive investigation was not conducted at the Site. Concealed ACMs may exist in areas not accessible during the inspection. Reasonable efforts have been made by Atlas personnel to locate and sample all suspect ACM. However, the existence of unique or concealed ACM and debris is a possibility. If any additional suspect ACM, not listed in the Survey, will be impacted during future demolition and/or renovation activities, Atlas recommends additional sampling of any suspect ACM.

The report is designed to aid the client in understanding the extent of ACM issues as they pertain to the planned renovation and/or demolition of the buildings. Atlas does not warrant, guarantee or profess to have the ability to locate or identify all ACM in a facility. The intent of this report is to be used in planning for the specific renovation/demolition project only, and is based on the scope of work provided to Atlas by the CC BB Brownfields Coalition. Should the scope of the project change, Atlas recommends that an

additional investigation, including but not limited to, a review of the revised scope of work be performed to determine if ACM or suspect ACM will be impacted.



# Appendix A

Certifications: Atlas Staff and Analytical Laboratories

# THE ASBESTOS INSTITUTE

Certifies that

# Thomas Nelson

has attended and received instruction in the EPA approved course

# **AHERA Building Inspector Initial**

on



This training meets all requirements for asbestos certification under Toxic Substance Control Act Title II.

# THE ASBESTOS INSTITUTE

Certifies that

# **Chad Wells**

has attended and received instruction in the EPA approved course

# **AHERA Building Inspector Refresher**

on

	July 26, 2022	
	and successfully completed and passed the competency exan	n.
E A	Certificate: ON-4644-12331-072622	UD
a the Fall	Date of Examination: 26-Jul-2022	
Lavren	Date of Expiration:	alame
William T. Cavness Director	26-Jul-2023	Approved Instructor
	THE ASBESTOS INSTITUTE	
	20033 N. 19 <sup>th</sup> Ave, Building 6, Phoenix, AZ 85027	

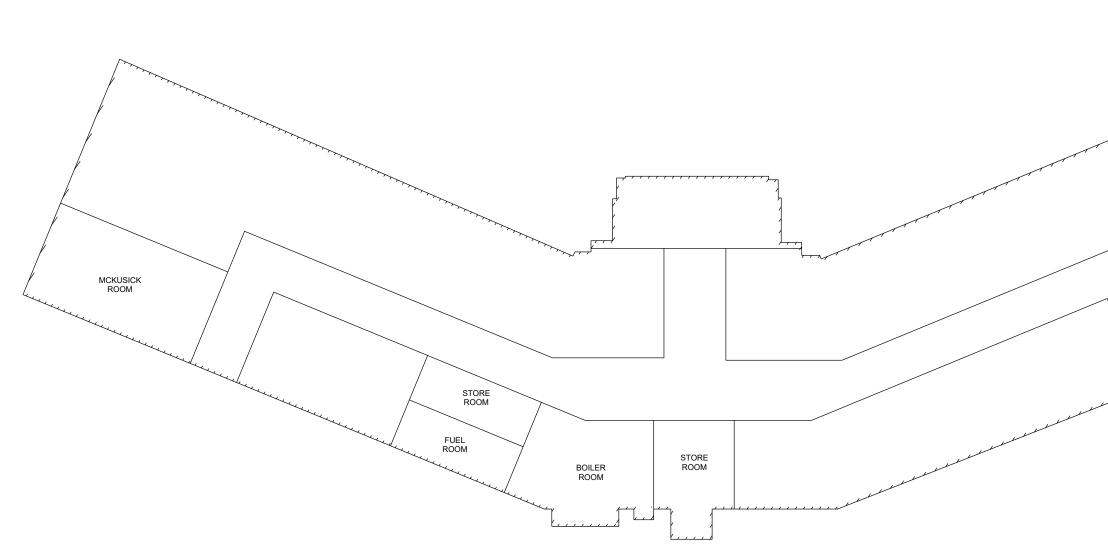
602-864-6564 - www.theasbestosinstitute.com

This training meets all requirements for asbestos certification under Toxic Substance Control Act Title II.



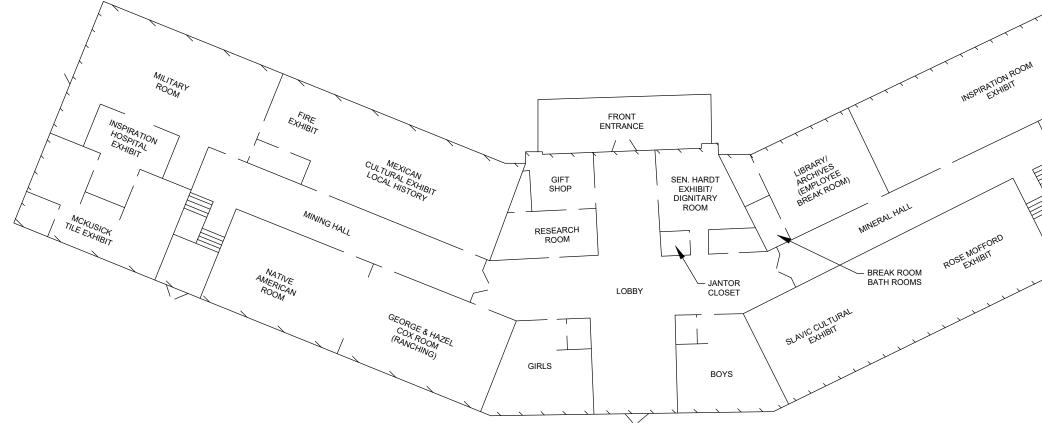
# Appendix B

Site Plan, Asbestos Sample Location Maps, ACM Location Maps





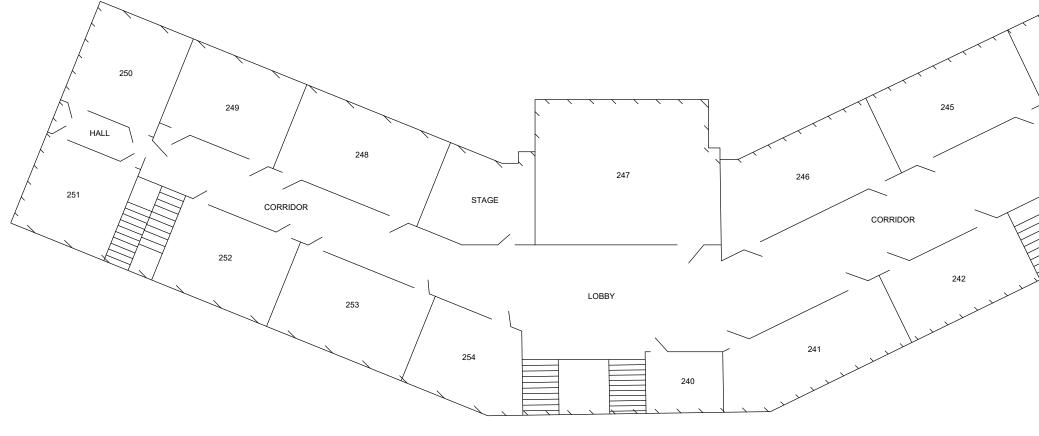
PROJECT NUMBER:         1052000242         DATE:         1/10/23         FIGURE           APPROVED BY:         TH         DRAWN BY:         BK         1	Prices         9185 S. Farmer Ave., Ste. #111           Tempe, Arizona 85284-2912           Ph: (480) 894-2056
SITE PLAN BASEMENT	BULLION PLAZA CULTURAL CENTER & MUSEAUM 150 N. PLAZA CIRCLE MIAMI, AZ





NOT TO SCALE NOTE: ALL LOCATIONS ARE APPROXIMATE

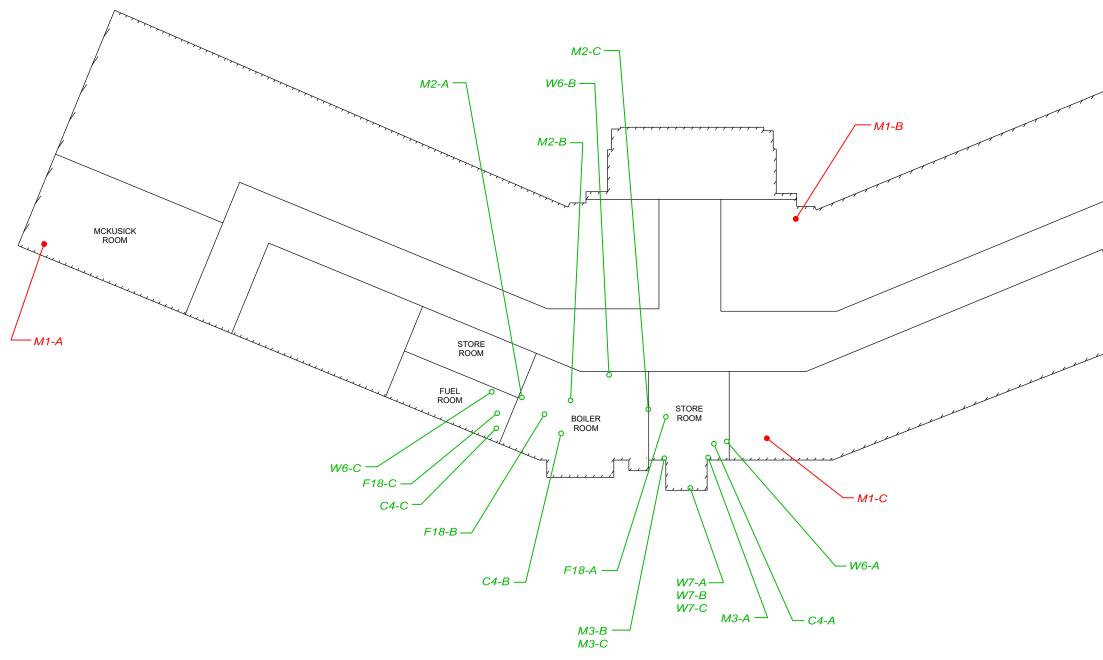
	PROJECT NUMBER:         105200242         DATE:         1/10/23         FIGURE           APPROVED BY:         TH         DRAWN BY:         BK         2	Ph: (480) 894-2056 *** Fax: (480) 894-247
Correct reconnections		BULLION PLAZA CULTURAL CENTER & MUSEUM 150 N. PLAZA CIRCLE MIAMI, AZ





NOTE: ALL LOCATIONS ARE APPROXIMATE

SITE PLAN	SER: 1052000242 DATE: 1/10/23 FIG
SECOND FLOOR	APPROVED BY: TH DRAWN BY: BK 3
BULLION PLAZA CULTURAL CENTER & MUSEUM 150 N PI AZA CIRCI F	<b>ATLAS</b> 9185 S. Farmer Ave., Ste. #111 Tempe. Arizona 85284-2912
MIAMI, AZ	Ph: (480) 894-2056 *** Fax: (480) 894-2497



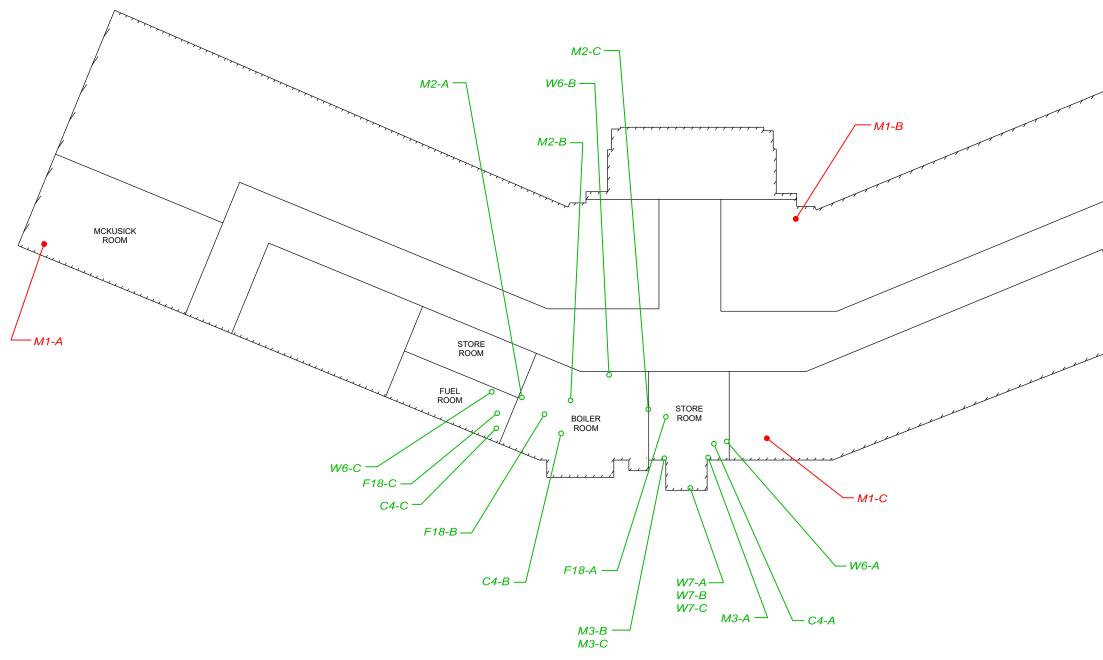
LEGEND

O ACM NEGATIVE SAMPLE

ACM POSITIVE SAMPLE



PROJECT NUMBER:         1052000242         DATE:         12/16/22         FIGURE           APPROVED BY:         TH         DRAWN BY:         BK         4	TEAS         9185 S. Farmer Ave., Ste. #111           Tempe, Arizona 85284-2912           Ph: (480) 894-2056	
SAMPLE LOCATION MAP BASEMENT	BULLION PLAZA CULTURAL CENTER & MUSEAUM 150 N. PLAZA CIRCLE MIAMI, AZ	



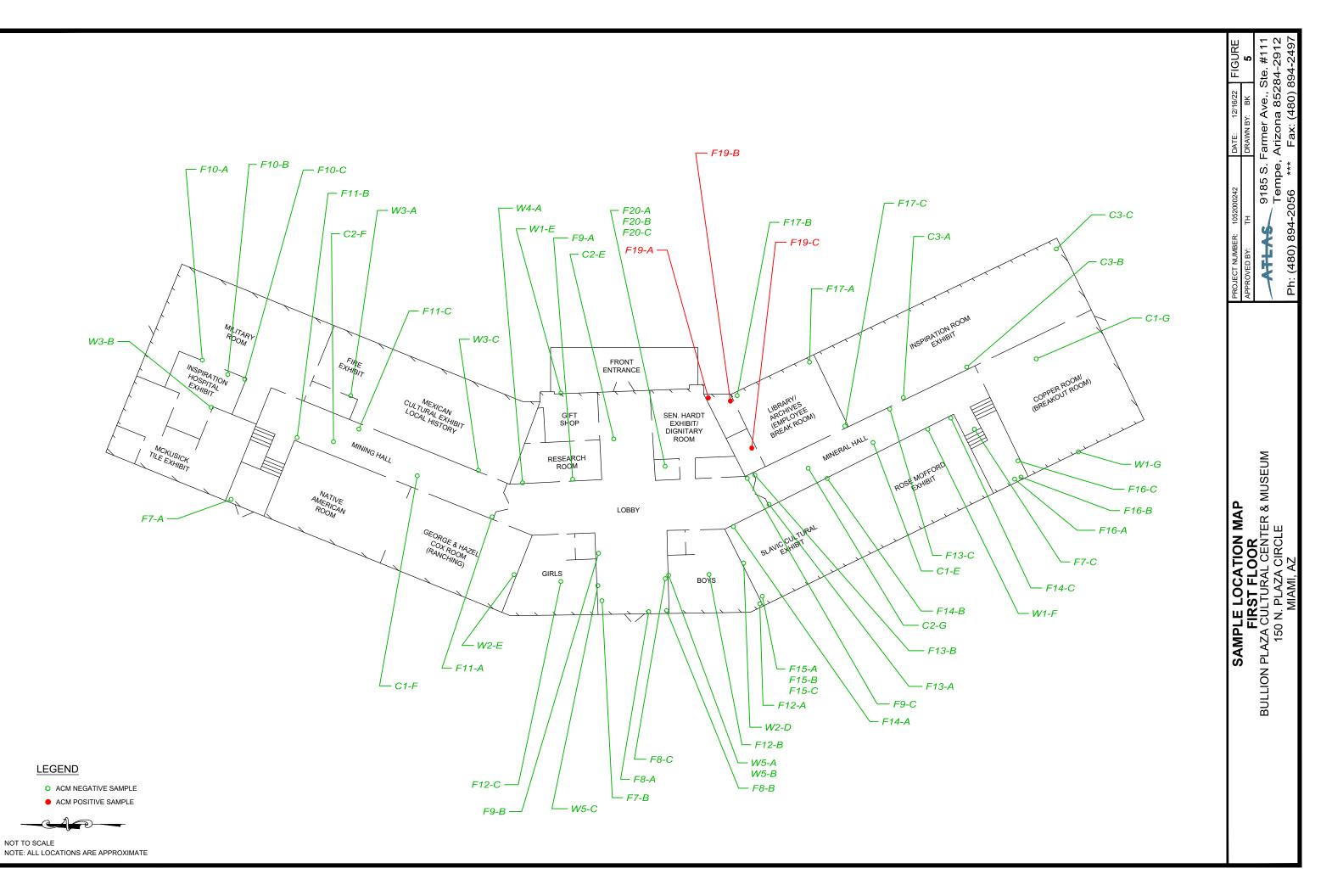
LEGEND

O ACM NEGATIVE SAMPLE

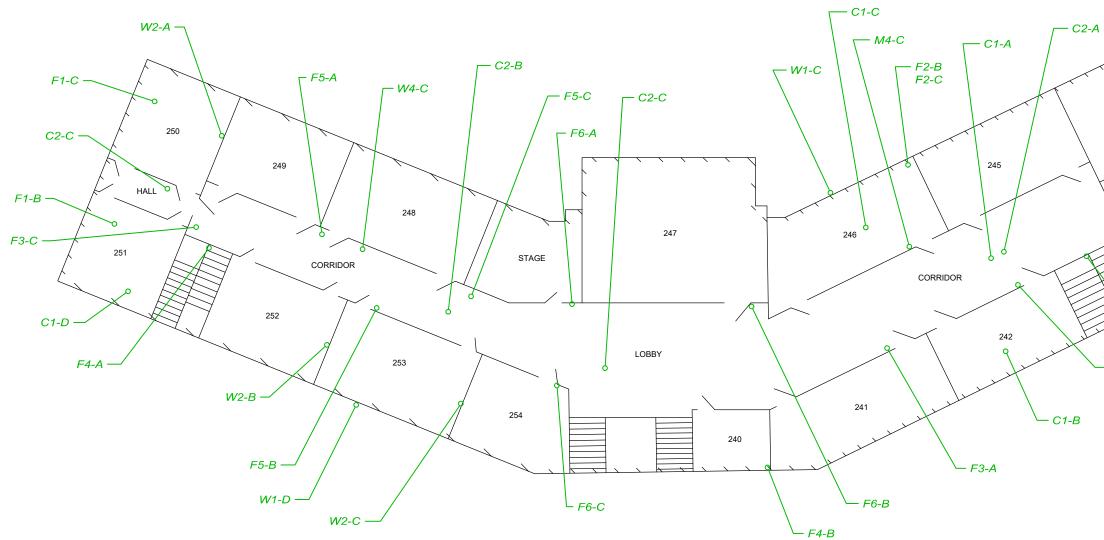
ACM POSITIVE SAMPLE



PROJECT NUMBER:         1052000242         DATE:         12/16/22         FIGURE           APPROVED BY:         TH         DRAWN BY:         BK         4	TEAS         9185 S. Farmer Ave., Ste. #111           Tempe, Arizona 85284-2912           Ph: (480) 894-2056	
SAMPLE LOCATION MAP BASEMENT	BULLION PLAZA CULTURAL CENTER & MUSEAUM 150 N. PLAZA CIRCLE MIAMI, AZ	



NOT TO SCALE

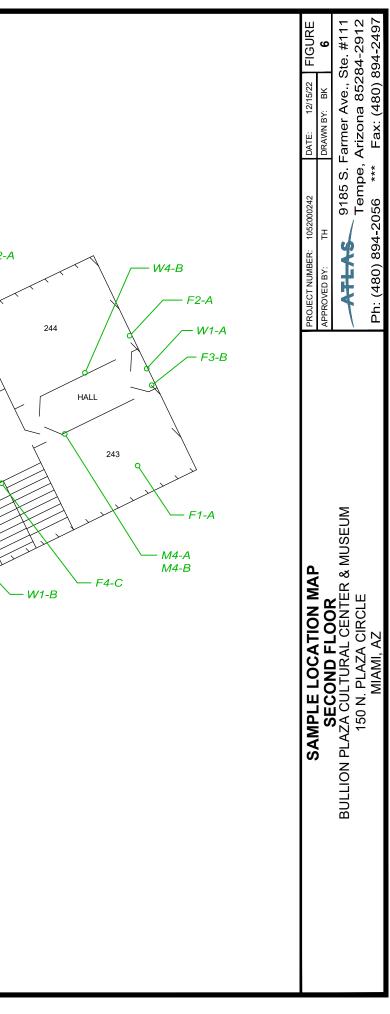


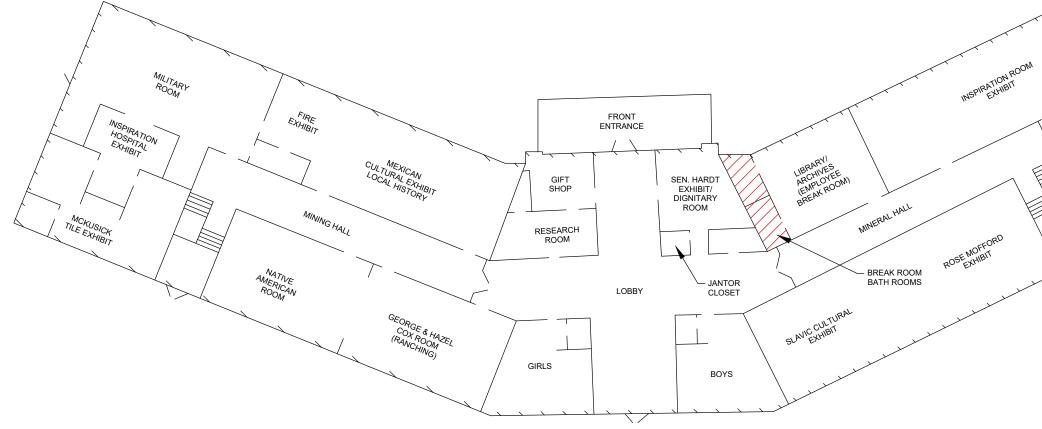
LEGEND

O ACM NEGATIVE SAMPLE



NOT TO SCALE NOTE: ALL LOCATIONS ARE APPROXIMATE





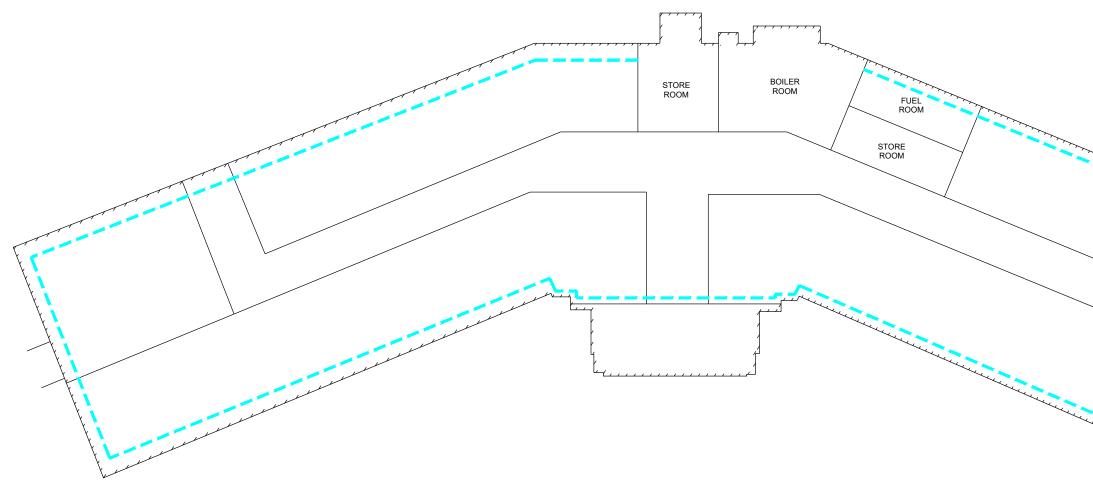


F19 - ACM FLOOR TILE, CREAM WITH LIGHT GRAY STREAKS & BLACK MASTIC, 2% CHRYSOTILE (~60 S.F.)

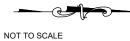


NOT TO SCALE NOTE: ALL LOCATIONS ARE APPROXIMATE

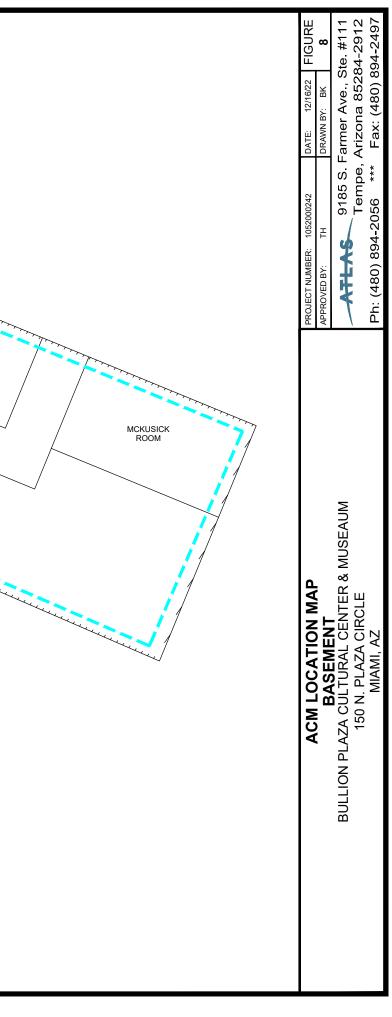
Correction		
ACM LOCATION MAP	PROJECT NUMBER:         1052000242         DATE:         12/16/22         FIG           ADDITION OF A DATE:         TU         DATE:         12/16/22         FIG	FIGURE
FIRST FLOOR BUILION PLAZA CULTURAL CENTER & MUSEUM	9185 S. Farmer A	/ #111
150 N. PLAZA CIRCLE	npe, ⊿	2912
MIAMI, AZ	Ph: (480) 894-2056 *** Fax: (480) 894-2497	-2497



M1 - ACM PIPE INSULATION, WHITE POWDERY, CHALKY, 50% CHRYSOTILE (~600 L. F.)



NOTE: ALL LOCATIONS ARE APPROXIMATE





# Appendix C

# Analytical Laboratory Reports and Chain-of-Custody Documentation



**Built Environment Testing** 

Report for:

Robyn Steiner Atlas Technical Consultants LLC: AZ 9185 S Farmer Ave Suite 111 Tempe, AZ 85284

Regarding: Eurofins Aerotech Built Environment Testing, Inc. Project: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ EML ID: 3090316

Approved by:

Rence Luna-Freepezynski

Approved Signatory Renee Luna-Trepczynski

Dates of Analysis: Asbestos PLM: 11-29-2022

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267) NVLAP Lab Code 500031-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

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

### **Eurofins Aerotech Built Environment Testing, Inc.** 1501 West Knudsen Drive, Phoenix, AZ 85027

Client: Atlas Technical Consultants LLC: AZ C/O: Robyn Steiner Re: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ (800) 651-4802 www.eurofinsus.com/Built Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

### Summary of Samples with Asbestos Detected

Total Samples Submitted:	119
Total Samples Analyzed:	119
Total Layers Analyzed:	180

### **Total Samples with Layer Asbestos Content > 1%:** 6

F19-A, Floor Tile & Mastic
Off-White Floor Tile
Black Mastic
F19-B, Floor Tile & Mastic
Off-White Floor Tile
Black Mastic
F19-C, Floor Tile & Mastic
Off-White Floor Tile
Black Mastic
M1-A, Pipe Insulation
Gray Pipe Insulation
M1-B, Pipe Insulation
Gray Pipe Insulation
M1-C, Pipe Insulation
Gray Pipe Insulation

Total Samples with Layer Asbestos Content < 1%: 0

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

### Location: F1-A, Residual Floor Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Yellow Mastic	ND
Sample Composite Homogeneity:	Good

Location: F1-B, Residual Floor Mastic	Lab ID-Version‡: 14918766-1
Sample Layers	Asbestos Content
Yellow Mastic	ND
Sample Composite Homogeneity:	Good

#### **Location: F1-C, Residual Floor Mastic**

Sample Layers	Asbestos Content
Yellow Mastic	ND
Sample Composite Homogeneity:	Good

### Location: F2-A, Carpet & Mastic

/ <b>I</b>	
Sample Layers	Asbestos Content
Blue Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	90% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

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

Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version‡: 14918768-1

Lab ID-Version 14918767-1

Lab ID-Version #: 14918765-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

### Location: F2-B, Carpet & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Blue Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content: 90% Synthetic Fibers	
Sample Composite Homogeneity:	Moderate

Location: F2-C. Carpet & Mastic

Lab ID-Version<sup>‡</sup>: 14918770-1

Lab ID-Version 14918769-1

Sample Layers	Asbestos Content	
Blue Carpet	ND	
Yellow Mastic	ND	
Composite Non-Asbestos Content: 90% Synthetic Fibers		
Sample Composite Homogeneity: Moderate		

### Location: F3-A. Carpet & Mastic

Location: F3-A, Carpet & Mastic	Lab ID-Version‡: 14918771-1
Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

### Location: F3-B. Carpet & Mastic

Lab ID-Version : 14918772-1

Location To D, curper a music	•
Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	
	15% Cellulose
Sample Composite Homogeneity:	Poor

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

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

### Location: F3-C, Carpet & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

#### Location: F4-A, Stair Tread & Mastic

Lab ID-Version 14918774-1

Lab ID-Version\* 14918775-1

Lab ID-Version #: 14918773-1

Sample Layers	Asbestos Content
Red Flooring	ND
Dark Brown Mastic	ND
Sample Composite Homogeneity: Moderate	

### Location: F4-B. Stair Tread & Mastic

Location. 14-D, Stan 11cau & Mastic	
Sample Layers	Asbestos Content
Red Flooring	ND
Dark Brown Mastic	ND
Sample Composite Homogeneity: Moderate	

### Location: F4-C, Stair Tread & Mastic

Lab ID-Version : 14918776-1 Sample Layers **Asbestos Content** Red Flooring ND Dark Brown Mastic ND Sample Composite Homogeneity: Moderate

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

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

### Location: F5-A, Carpet & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

#### Location: F5-B, Carpet & Mastic

Lab ID-Version 14918778-1

Lab ID-Version 14918780-1

Lab ID-Version : 14918777-1

Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

### Location: F5-C. Carpet & Mastic

Location: F5-C, Carpet & Mastic	Lab ID-Version‡: 14918779-1
Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

### Location: F6-A. Vinvl Sheet Flooring

	•
Sample Layers	Asbestos Content
Light Gray Sheet Flooring	ND
Sample Composite Homogeneity:	Good

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

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

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

### Location: F6-B, Vinvl Sheet Flooring

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Light Gray Sheet Flooring	ND
Sample Composite Homogeneity:	Good

Location: F6-C, Vinyl Sheet Flooring	Lab ID-Version‡: 14918782-1
Sample Layers	Asbestos Content
Light Gray Sheet Flooring	ND
Sample Composite Homogeneity	Good

#### Location: F7-A. Floor Tile & Mastic

Location: F7-A, Floor Tile & Mastic	Lab ID-Version‡: 14918783-1
Sample Layers	Asbestos Content
Red Floor Tile	ND
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

### Location: F7-B, Floor Tile & Mastic

Sample Layers	Asbestos Content
Red Floor Tile	ND
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

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

Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version #: 14918781-1

Lab ID-Version 14918784-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: F7-C, Floor Tile & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Red Floor Tile	ND
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: F8-A, Floor Coating	Lab ID-Version‡: 14918786-1
Sample Layers	Asbestos Content
Gray Coating	ND
Sample Composite Homogeneity:	Good

#### Location: F8-B. Floor Coating

Sample Layers	Asbestos Content
Gray Coating	ND
Sample Composite Homogeneity:	Good

#### Location: F8-C. Floor Coating

Location: F8-C, Floor Coating	Lab ID-Version‡: 14918788-1
Sample Layers	Asbestos Content
Gray Coating	ND
Sample Composite Homogeneity: Good	

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

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

Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version #: 14918785-1

Lab ID-Version 14918787-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: F9-A, Carpet & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

#### Location: F9-B, Carpet & Mastic

Lab ID-Version 14918790-1

Lab ID-Version 14918792-1

Lab ID-Version #: 14918789-1

Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

#### Location: F9-C. Carpet & Mastic

Location: F9-C, Carpet & Mastic	Lab ID-Version‡: 14918791-1
Sample Layers	Asbestos Content
Red Carpet	ND
Yellow Mastic	ND
Light Brown Woven Material	ND
Composite Non-Asbestos Content:	75% Synthetic Fibers 15% Cellulose
Sample Composite Homogeneity:	Poor

#### Location: F10-A. Vinvl Sheet Flooring

	•
Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Sample Composite Homogeneity:	Good

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: F10-B, Vinyl Sheet Flooring

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Sample Composite Homogeneity:	Good

Location: F10-C, Vinyl Sheet Flooring	Lab ID-Version‡: 14918794-1
Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Sample Composite Homogeneity:	Good

#### Location: F11-A. Epoxy Coated Concrete

Location: F11-A, Epoxy Coated Concrete	Lab ID-Version‡: 14918795-1
Sample Layers	Asbestos Content
Gray Concrete Epoxy	ND
Gray Concrete	ND
Sample Composite Homogeneity: Moderate	

#### Location: F11-B, Epoxy Coated Concrete

Sample Layers	Asbestos Content
Gray Concrete Epoxy	ND
Gray Concrete	ND
Sample Composite Homogeneity: Moderate	

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version 14918796-1

Lab ID-Version #: 14918793-1

Client: Atlas Technical Consultants LLC: AZ C/O: Robyn Steiner Date of Sa Date of Sa

#### Re: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ

#### **ASBESTOS PLM REPORT**

Location: F11-C, Epoxy Coated Concrete

#### **Eurofins Aerotech Built Environment Testing, Inc.**

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Lab ID-Version‡: 14918797-1

Sample Layers	Asbestos Content
Gray Concrete Epoxy	ND
Gray Concrete	ND
Sample Composite Homogeneity: Moderate	

Location: F12-A, Ceramic Tile & Grout	Lab ID-Version‡: 14918798-1
Sample Layers	Asbestos Content
Beige Ceramic Tile Debris	ND
Sample Composite Homogeneity:	Good

Location: F12-B, Ceramic Tile & Grout	Lab ID-Version‡: 14918799-1
Sample Layers	Asbestos Content
Beige Ceramic Tile Debris	ND
Sample Composite Homogeneity:	Good

Location: F12-C, Ceramic Tile & Grout	Lab ID-Version‡: 14918800-1
Sample Layers	Asbestos Content
Beige Ceramic Tile Debris	ND
Sample Composite Homogeneity:	Good

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#### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: F13-A, Carpet & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Brown Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	30% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

#### Location: F13-B, Carpet & Mastic

Sample Layers	Asbestos Content
Brown Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content: 30% Synthetic Fibers	
Sample Composite Homogeneity: Moderate	

#### Location: F13-C, Carpet & Mastic

,,,,,,,	•
Sample Layers	Asbestos Content
Brown Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content: 30% Synthetic Fibers	
Sample Composite Homogeneity:	Moderate

#### Location: F14-A, Carpet & Mastic

Lab ID-Version 14918804-1

Lab ID-Version 14918803-1

Lab ID-Version #: 14918801-1

Lab ID-Version 1: 14918802-1

Sample Layers	Asbestos Content
Green Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content: 30% Synthetic Fibers	
Sample Composite Homogeneity: Moderate	

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#### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: F14-B, Carpet & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Green Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	30% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

#### Location: F14-C, Carpet & Mastic

•
Asbestos Content
ND
ND
30% Synthetic Fibers
Moderate

Location: F15-A, Vinyl Sheet Flooring	Lab ID-Version‡: 14918807-1
Sample Layers	Asbestos Content
Light Gray Sheet Flooring with Fibrous Backing	ND
Composite Non-Asbestos Content:	
	2% Glass Fibers
Sample Composite Homogeneity:	Good

#### Location: F15-B, Vinyl Sheet Flooring

Lab ID-Version \$\\$: 14918808-1

Lab ID-Version #: 14918805-1

Lab ID-Version<sup>‡</sup>: 14918806-1

Sample Layers	Asbestos Content
Light Gray Sheet Flooring with Fibrous Backing	ND
Composite Non-Asbestos Content:	
	2% Glass Fibers
Sample Composite Homogeneity:	Good

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#### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: F15-C, Vinyl Sheet Flooring

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Light Gray Sheet Flooring with Fibrous Backing	ND
Composite Non-Asbestos Content:	5% Cellulose
-	2% Glass Fibers
Sample Composite Homogeneity:	Good

#### Location: F16-A, Ceramic Tile & Grout

Sample Layers	Asbestos Content
Beige Ceramic Tile	ND
Gray Grout	ND
Sample Composite Homogeneity: Moderate	

#### Location: F16-B, Ceramic Tile & Grout

Sample Layers	Asbestos Content
Beige Ceramic Tile	ND
Gray Grout	ND
Sample Composite Homogeneity: Moderate	

#### Location: F16-C, Ceramic Tile & Grout

Lab ID-Version<sup>‡</sup>: 14918812-1

Sample Layers	Asbestos Content
Beige Ceramic Tile	ND
Gray Grout	ND
Sample Composite Homogeneity: Moderate	

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Lab ID-Version‡: 14918809-1

Lab ID-Version #: 14918810-1

Lab ID-Version 14918811-1

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: F17-A, Carpet & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Brown/Gray Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content: 25% Synthetic Fibers	
Sample Composite Homogeneity:	Moderate

#### Location: F17-B. Carpet & Mastic

Sample Layers	Asbestos Content
Brown/Gray Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content: 25% Synthetic Fibers	
Sample Composite Homogeneity:	Moderate

#### Location: F17-C. Carpet & Mastic

Location: F17-C, Carpet & Mastic	Lab ID-Version‡: 14918815-1
Sample Layers	Asbestos Content
Brown/Gray Carpet	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	25% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

#### Location: F18-A, Concrete

Lab ID-Version 14918816-1

Lab ID-Version #: 14918813-1

Lab ID-Version<sup>‡</sup>: 14918814-1

Sample Layers	Asbestos Content
Gray Concrete with Multilayered Coating	ND
Sample Composite Homogeneity:	Good

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#### ASBESTOS PLM REPORT

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

#### Location: F18-B, Concrete

Plaza Circle, Miami, AZ

C/O: Robyn Steiner

Sample Layers	Asbestos Content
Gray Concrete with Multilayered Coating	ND
Sample Composite Homogeneity:	Good

#### Location: F18-C. Concrete

Sample Layers	Asbestos Content
Gray Concrete with Multilayered Coating	ND
Sample Composite Homogeneity:	Good

#### Location: F19-A. Floor Tile & Mastic

Location: F19-A, Floor Tile & Mastic	Lab ID-Version‡: 14918819-1
Sample Layers	Asbestos Content
Off-White Floor Tile	< 1% Chrysotile
Black Mastic	2% Chrysotile
Sample Composite Homogeneity: Moderate	

#### Location: F19-B, Floor Tile & Mastic

	•
Sample Layers	Asbestos Content
Off-White Floor Tile	< 1% Chrysotile
Black Mastic	2% Chrysotile
Sample Composite Homogeneity: Moderate	

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#### Lab ID-Version 14918820-1

# Lab ID-Version #: 14918817-1

Lab ID-Version 14918818-1

Client: Atlas Technical Consultants LLC: AZ C/O: Robyn Steiner Re: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ

#### ASBESTOS PLM REPORT

#### Location: F19-C, Floor Tile & Mastic

#### Lab ID-Version #: 14918821-1 Sample Layers **Asbestos Content** Off-White Floor Tile <1% Chrysotile 2% Chrysotile **Black Mastic**

Sample Composite Homogeneity: Moderate

Location: F20-A, Ceramic Tile	Lab ID-Version‡: 14918822-1
Sample Layers	Asbestos Content
White Ceramic Tile	ND
Sample Composite Homogeneity:	Good

Location: F20-B, Ceramic Tile	Lab ID-Version‡: 14918823-1
Sample Layers	Asbestos Content
White Ceramic Tile	ND
Sample Composite Homogeneity:	Good

	•
Sample Layers	Asbestos Content
White Ceramic Tile	ND
Sample Composite Homogeneity:	Good

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Sample Layers	Asbestos Content
White Ceramic Tile	ND
Sample Composite Homogeneity:	Good
Location: F20-B, Ceramic Tile	Lab ID-Version‡: 14918823-
Sample Layers	Asbestos Content
White Ceramic Tile	ND
Sample Composite Homogeneity:	Good
Sample Composite Homogeneity:	
	Lah ID Varsion*: 14019824
Location: F20-C, Ceramic Tile	Lab ID-Version‡: 14918824
	Lab ID-Version‡: 14918824 Asbestos Content

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#### ASBESTOS PLM REPORT

#### Location: W1-A, Plaster Walls

Sample Layers	Asbestos Content
Brown/Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

Location: W1-B, Plaster Walls	Lab ID-Version‡: 14918826-1
Sample Layers	Asbestos Content
Brown/Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W1-C, Plaster Walls

Location: W1-C, Plaster Walls	Lab ID-Version‡: 14918827-1
Sample Layers	Asbestos Content
Brown/Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W1-D. Plaster Walls

	•
Sample Layers	Asbestos Content
White Skim Coat with Multilayered Paint	ND
Brown/Gray Base Coat	ND
Sample Composite Homogeneity: Moderate	

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version #: 14918825-1

Lab ID-Version 14918828-1

Date of Sampling: 11-18-2022

Client: Atlas Technical Consultants LLC: AZ C/O: Robyn Steiner Re: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

#### Location: W1-E, Plaster Walls

#### Lab ID-Version #: 14918829-1

Lab ID-Version 14918831-1

Sample Layers	Asbestos Content
White Skim Coat with Multilayered Paint	ND
Brown/Gray Base Coat	ND
Sample Composite Homogeneity: Moderate	

Location: W1-F, Plaster Walls	Lab ID-Version‡: 14918830-1
Sample Layers	Asbestos Content
White Plaster with Pink Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W1-G. Plaster Walls

	•
Sample Layers	Asbestos Content
White Plaster with Pink Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W2-A, Plaster Walls

Location: W2-A, Plaster Walls	Lab ID-Version‡: 14918832-1
Sample Layers	Asbestos Content
Brown/Gray Plaster with White Paint	ND
Sample Composite Homogeneity:	Good

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#### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

#### Location: W2-B, Plaster Walls

Sample Layers	Asbestos Content
Brown/Gray Plaster with White Paint	ND
Sample Composite Homogeneity:	Good

Location: W2-C, Plaster Walls	Lab ID-Version‡: 14918834-1
Sample Layers	Asbestos Content
Brown/Gray Plaster with White Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W2-D, Plaster Walls

Sample Layers	Asbestos Content
Brown/Gray Plaster with White Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W2-E, Plaster Walls

	···· ··· ··· ··· ··· ··· ··· ··· ··· ·
Sample Layers	Asbestos Content
Brown/Gray Plaster with White Paint	ND
Sample Composite Homogeneity:	Good

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version<sup>‡</sup>: 14918836-1

Lab ID-Version 14918835-1

Lab ID-Version #: 14918833-1

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#### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: W3-A, Vinyl Covered Drywall

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
White Skim Coat with Gray Paint	ND
Sample Composite Homogeneity:	Good

Location: W3-B, Vinyl Covered Drywall	Lab ID-Version‡: 14918838-1
Sample Layers	Asbestos Content
White Skim Coat with Gray Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W3-C, Vinyl Covered Drywall

Sample Layers	Asbestos Content
White Skim Coat with Gray Paint	ND
Sample Composite Homogeneity:	Good

#### Location: W4-A, Cove Base & Mastic

Sample Layers	Asbestos Content
Black Baseboard	ND
Dark Brown Mastic	ND
Sample Composite Homogeneity: Moderate	

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Lab ID-Version‡: 14918840-1

Lab ID-Version 14918839-1

## Lab ID-Version‡: 14918837-1

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: W4-B, Cove Base & Mastic

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Black Baseboard	ND
Dark Brown Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: W4-C, Cove Base & Mastic	Lab ID-Version‡: 14918842-1
Sample Layers	Asbestos Content
Black Baseboard	ND
Dark Brown Mastic	ND
Sample Composite Homogeneity	Moderate

#### Location: W5-A, Glazed Wall Tile

Sample Layers	Asbestos Content
White Cementitious Material	ND
Sample Composite Homogeneity:	Good

#### Location: W5-B, Glazed Wall Tile

Sample Layers	Asbestos Content
White Cementitious Material	ND
Sample Composite Homogeneity: Good	

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version‡: 14918841-1

Lab ID-Version 14918843-1

Lab ID-Version 14918844-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: W5-C, Glazed Wall Tile

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
White Cementitious Material	ND
Sample Composite Homogeneity:	Good

Location: W6-A, Concrete	Lab ID-Version‡: 14918936-1
Sample Layers	Asbestos Content
Off-White Compound with Multilayered Paint	ND
Gray Concrete	ND
Sample Composite Homogeneity: Moderate	

#### Location: W6-B. Concrete

Sample Layers	Asbestos Content
Off-White Compound with Multilayered Paint	ND
Gray Concrete	ND
Sample Composite Homogeneity:	Moderate

#### Location: W6-C. Concrete

Sample Layers	Asbestos Content
Off-White Compound with Multilayered Paint	ND
Gray Concrete	ND
Sample Composite Homogeneity: Moderate	

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version 14918937-1

Lab ID-Version 14918938-1

Lab ID-Version #: 14918935-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: W7-A, Brick & Mortar

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
White Compound with Yellow Mastic	ND
Gray Brick	ND
Gray Mortar	ND
Sample Composite Homogeneity: Poor	

#### Location: W7-B, Brick & Mortar

Lab ID-Version<sup>‡</sup>: 14918940-1

Lab ID-Version 14918941-1

Lab ID-Version #: 14918939-1

Sample Layers	Asbestos Content
White Compound with Yellow Mastic	ND
Gray Brick	ND
Gray Mortar	ND
Sample Composite Homogeneity:	Poor

#### Location: W7-C. Brick & Mortar

Sample Layers	Asbestos Content
White Compound with Yellow Mastic	ND
Gray Brick	ND
Gray Mortar	ND
Sample Composite Homogeneity: Poor	

#### Location: C1-A, Plaster Ceilings

Lab ID-Version 14918942-1 Sample Layers **Asbestos Content** Gray Plaster with Multilayered Paint ND Sample Composite Homogeneity: Good

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### **ASBESTOS PLM REPORT**

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### **Location: C1-B, Plaster Ceilings**

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

Location: C1-C, Plaster Ceilings	Lab ID-Version‡: 14918944-1
Sample Layers	Asbestos Content
Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

#### Location: C1-D, Plaster Ceilings

	•
Sample Layers	Asbestos Content
Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

#### Location: C1-E, Plaster Ceilings

	······································
Sample Layers	Asbestos Content
Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version‡: 14918943-1

Lab ID-Version<sup>‡</sup>: 14918946-1

Lab ID-Version 14918945-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: C1-F, Plaster Ceilings

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

Location: C1-G, Plaster Ceilings	Lab ID-Version‡: 14918948-1
Sample Layers	Asbestos Content
Gray Plaster with Multilayered Paint	ND
Sample Composite Homogeneity:	Good

Location: C2-A, Acoustical Ceiling Panes	Lab ID-Version‡: 14918949-1
Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose
	20% Glass Fibers
Sample Composite Homogeneity:	Good

#### Location: C2.B Acoustical Ceiling Panes

Location. C2-D, Acoustical Cening Lanes	
Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose
_	20% Glass Fibers
Sample Composite Homogeneity:	Good

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version : 14918947-1

Lab ID-Version \* 14918950-1

Client: Atlas Technical Consultants LLC: AZ C/O: Robyn Steiner Re: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ

#### ASBESTOS PLM REPORT

#### **Eurofins Aerotech Built Environment Testing, Inc.**

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### Location: C2-C, Acoustical Ceiling Panes Sample Layers **Asbestos Content** Gray Ceiling Tile with White Surface ND **Composite Non-Asbestos Content:** 40% Cellulose 20% Glass Fibers Sample Composite Homogeneity: Good

#### Location: C2-D, Acoustical Ceiling Panes

Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose
_	20% Glass Fibers
Sample Composite Homogeneity:	Good

#### Location: C2-E, Acoustical Ceiling Panes

Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose
-	20% Glass Fibers
Sample Composite Homogeneity:	Good

#### Location: C2-F, Acoustical Ceiling Panes

Lab ID-Version 14918954-1

Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose
_	20% Glass Fibers
Sample Composite Homogeneity:	Good

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version 14918951-1

Lab ID-Version 14918952-1

Lab ID-Version 14918953-1

Client: Atlas Technical Consultants LLC: AZ C/O: Robyn Steiner Re: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ

#### ASBESTOS PLM REPORT

#### Location: C2-G, Acoustical Ceiling Panes

Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose
-	20% Glass Fibers
Sample Composite Homogeneity:	Good

#### Location: C3-A, Fiberboard Ceiling

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Sample Layers	Asbestos Content
Brown Fiberboard with Multilayered Paint	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

#### Location: C3-B, Fiberboard Ceiling

Sample Layers	Asbestos Content
Brown Fiberboard with Multilayered Paint	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

#### Location: C3-C, Fiberboard Ceiling

Lab ID-Version 14918958-1

Lab ID-Version 14918957-1

Sample Layers	Asbestos Content
Brown Fiberboard with Multilayered Paint	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

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Eurofins Aerotech Built Environment Testing, Inc.

#### **Eurofins Aerotech Built Environment Testing, Inc.**

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

Lab ID-Version 14918955-1 Lab ID-Version 14918956-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### **ASBESTOS PLM REPORT**

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

#### Location: C4-A, Concrete

Plaza Circle, Miami, AZ

C/O: Robyn Steiner

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

#### Location: C4-B, Concrete

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

#### Location: C4-C, Concrete

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

#### Location: M1-A, Pipe Insulation

Sample Layers	Asbestos Content
Gray Pipe Insulation	50% Chrysotile
Composite Non-Asbestos Content:	5% Cellulose
Sample Composite Homogeneity:	Good

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Eurofins Aerotech Built Environment Testing, Inc.

## Lab ID-Version<sup>‡</sup>: 14918959-1

Lab ID-Version ‡: 14918960-1

Lab ID-Version 14918961-1

Lab ID-Version #: 14918962-1

Client: Atlas Technical Consultants LLC: AZ C/O: Robyn Steiner Re: ADEQ Bullion Plaza Cultural center; 150 N. Plaza Circle, Miami, AZ

#### **ASBESTOS PLM REPORT**

#### **Location: M1-B, Pipe Insulation**

#### **Eurofins Aerotech Built Environment Testing, Inc.**

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

Lab ID-Version‡: 14918963-1

Lab ID-Version<sup>‡</sup>: 14918964-1

Lab ID-Version<sup>†</sup>: 14918965-1

Lab ID-Version 14918966-1

Sample Layers	Asbestos Content
Gray Pipe Insulation	50% Chrysotile
Composite Non-Asbestos Content:	5% Cellulose
Sample Composite Homogeneity:	Good

Location: M1-C, Pipe Insulation	Lat
Sample Layers	Asbestos Content
Gray Pipe Insulation	50% Chrysotile
Composite Non-Asbestos Content:	5% Cellulose

Sample Composite Homogeneity: Good

#### Location: M2-A. Patch Material

Sample Layers	Asbestos Content	
White Compound	ND	
Sample Composite Homogeneity:	Good	

#### Location: M2-B, Patch Material

Sample Layers	Asbestos Content	
White Compound	ND	
Sample Composite Homogeneity: Good		

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Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: M2-C, Patch Material

Client: Atlas Technical Consultants LLC: AZ

Re: ADEO Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
White Compound	ND
Sample Composite Homogeneity:	Good

# Location: M3-A, Window Glazing Compound Lab ID-Version 1: 14918968-1 Sample Layers Asbestos Content Red Window Glazing ND Composite Non-Asbestos Content: < 1% Cellulose</th> < 1% Wollastonite</td> < 1% Wollastonite</td>

#### Location: M3-B, Window Glazing Compound

Sample Layers	Asbestos Content	
Red Window Glazing	ND	
Gray Non-Fibrous Material	ND	
Composite Non-Asbestos Content: < 1% Cellulose < 1% Wollastonite		
Sample Composite Homogeneity: Moderate		

#### Location: M3-C, Window Glazing Compound

 Sample Layers
 Asbestos Content

 Red Window Glazing
 ND

 Gray Non-Fibrous Material
 ND

 Composite Non-Asbestos Content:
 < 1% Cellulose</td>

 < 1% Wollastonite</td>
 < 1% Wollastonite</td>

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version‡: 14918967-1

Lab ID-Version<sup>‡</sup>: 14918969-1

Lab ID-Version 14918970-1

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 www.eurofinsus.com/Built

Date of Sampling: 11-18-2022 Date of Receipt: 11-21-2022 Date of Report: 11-29-2022

#### ASBESTOS PLM REPORT

C/O: Robyn Steiner

Plaza Circle, Miami, AZ

#### Location: M4-A, Transite Panels

Client: Atlas Technical Consultants LLC: AZ

Re: ADEQ Bullion Plaza Cultural center; 150 N.

Sample Layers	Asbestos Content
Black Transite Panel with Green Paint	ND
Sample Composite Homogeneity:	Good

#### Location: M4-B, Transite Panels Sample Layers Asbestos Content Black Transite Panel with Green Paint ND Sample Composite Homogeneity: Good

#### Location: M4-C Transite Panels

Sample Layers	Asbestos Content	
Black Transite Panel with Green Paint	ND	
Sample Composite Homogeneity:	Good	

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Eurofins Aerotech Built Environment Testing, Inc.

Lab ID-Version 14918972-1

Lab ID-Version\* 14918973-1

Lab ID-Version #: 14918971-1

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9185 South Farmer Avenue, Suite 111 Tempe, Arizona 85284 Phone: (480) 894-2056 Fax: (480) 894-2497

	- CHAIN OF CUSTODY
Project Name: ADEQ · Bullion Plaza Cultural ( Project Location: 150 N. Plaza Circle, Miani,	Lever Project Number: 1052000 242 Huscum Sample Date: 11/18/2022
Turn-Around Time/Due Date: Normal Turn Aroun	dTime

Special Instructions:

Samples Collected by:

Contact - Robyn Steiner, robyn. steiner Concatlas.com Chad wells

SAMPLE	NE CONTRACTOR OF	(Print Name)	(Signature)
NUMBER	LAB ID	MATERIAL DESCRIPTION	SAMPLE LOCATION
FI-A		Residual Floor Mastic	
β		11	
C		el	
F2-A		Carpet + Mastic	
B			
C		11	
F3-A		Carpet + Mastic	
B		et and	
С			
F4-A		Stair Trend + Mastic	
B		11	
C		II.	
F5-A		Carpet + Mastic	
B	C. Carton		
C		<u>(</u> ¢	
-6-A		Vinyl Sheet Flooring	
В		0 11 0	
С		L C	
-7-A		Floor Tile + Mastic	
В		h	
C		μ	
=8-A		Floor Coating	
ß		ين <u>با</u>	
C		16	
9-A		Carpet + Mastic	
в		l u	
C		10	
10-A		Ving Sheet Flooring	
в		J u J	
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gnature)	Re-	(Signature)	11-71.9

1	THAS	<u>le filefile</u>	HANGI	9185	South Farmer Avenue, Suite 111 Tempe, Arizona 85284 Phone: (480) 894-2056
	·	003090316	<sup>5</sup> 'LM - C	HAIN OF C	Fax: (480) 894-2497
Project Na		ullion Plaz	a Cultural Center	roject Number: 105	2000 242
Project Loc	ation: 150N.	Plaza Circl	c, Miami, AZ		18/2022
			UNN Around Tip		10/ 2020
	Instructions:				cr@oncatles.com
Samples	Collected by:	Chad	Print Name)		the
SAMPLE NUMBER	LAB ID		MATERIAL DESCRIPTIC	N	SAMPLE LOCATION
FII-A	E	poxy Coated	Concrete		
B		41 41			
C					
F12- A	Ce	vamic Tile	Grout		
B		(1			
F13 - A	0	(			
B	C.	urpet + Mast	10		
C C		14			
E14- A	C.		2.0		
B		urpet + Mast			
C		11			
F15-A	Vi	Nyl Sheet F	Inciale		
B		N II	icor ilog		
C		Įt			
F16-A	Ce	ramic Tile +	Grout	-	
B		<i>t</i> 1			
C		й ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (			
FIT-A	Ca	rpet . Marti	с		
B		1 ( <u>)</u>			
C		10			
F18-A	Co	Narate			
B		10			
C			1		
EI9-A B	Ele	oor Tile + Me	istic		
C C		11 11			
-20-A	C				
B	- ce	ramic Tile			
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and an and a star	Relinquished by:	1	Re	ceived by:	Date/Time:
Signature)	d wells		(Print)		Date/Time:
-granaroj	the		(Signature)		

A	FLAS				9185	South Farmer Avenue, Suite 111 Tempe, Arizona 85284 Phone: (480) 894-2056
		0030903	<sup>316</sup> L	M - CHAI	N OF CL	Fax: (480) 894-2497
Project Na		Illion Plo	iza Cultural	Center Project N	lumber: 105	2000 242
Project Loca	ation: 150N.P	laza Ciri	de, Miani,	AZ Sample		18/2022
	d Time/Due Date: 🛔				/	10/2022
						<u>^</u>
	Collected by:	Alaci	d walls	LINUT, rob	42.steine	reoncatles.con
		Cina	(Print Name)		- 2	(Signature)
SAMPLE NUMBER	LAB ID	Stan Lines	MATERIAL DE	SCRIPTION		SAMPLE LOCATION
WI-L	Pla	ester wall	IS			
8		( C				
C		17				
D		11				
E F		11				
G		14				
W2- A	DL					
B	Pla	ster wall	.5			
C		11				
D		11				
Ē	in the second	10				
W3- A	Vin	y Covere	Drunal			
в			- urquadri			
C						
W4-A	Cov	C Base +	Mastic			
B		11				
C		ţ(				
WS-A	Gla	ized wall	Tilc			
B						
	C					
106-A B	LOH	screte				
6						
N7-A	A.Z	ck + Morte				
B	Dra	()				
C		L(				
CI- A	Plas	ster Ceilin	<u>es</u>			
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Page 3 of 4

A	FL-A		9185 South Farmer Avenue, Suite 111 Tempe, Arizona 85284 Phone: (480) 894-2056 Fax: (480) 894-2497
		003090316 <b>_M - C</b>	CHAIN OF CUSTODY
Project Na	me: ADEQ	Bullion Plaza Cultural Center	Project Number: 1052000 2412
Project Loca	ation: 150 h	S. Plaza Circle, Miani, AZ	Sample Date: 11/18/2022
		: Normal Turn Around Tip	
	Instructions:		
	Collected by:	Chad wells	robyn.striner@oncatles.com
SAMPLE	LAB ID	(Print Name)	(Signature)
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**Built Environment Testing** 

Report for:

Robyn Steiner Atlas Technical Consultants LLC: AZ 9185 S Farmer Ave Suite 111 Tempe, AZ 85284

Regarding: Eurofins Aerotech Built Environment Testing, Inc. Project: ADEQ Bullion Plaza Cultural Center; 150 N. Plaza Circle, Miami, AZ EML ID: 3090316

Approved by:

Operations Manager Joshua Cox

Dates of Analysis: Asbestos PLM: 11-29-2022 Asbestos TEM Chatfield (sub-contracted): 12-29-2022

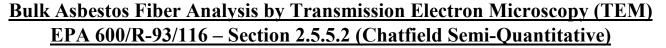
Project SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)

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

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

**Eurofins J3 Resources, Inc.** 

6110 W. 34th Street, Houston, Texas 77092 Phone: (713) 290-0221 Fax: (713) 290-0248 *j3resources.com* 



Shannon Nast Eurofins Aerotech 1501 W Knudsen Drive Phoenix, AZ 85027 

 EJ3 Order #:
 JH22142684

 Project #:
 3090316

 Receipt Date:
 21-Dec-2022

 Analysis Date:
 29-Dec-2022

 Report Date:
 29-Dec-2022

# EMLab ID 3090316

Client ID	Material Description	Percent Organics	Percent Carbonate	Percent Residue	Asbestos Type(s)	Percent Asbestos
F7-A	Floor Tile	10.83%	87.25%	1.92%	None Detected	<0.01%
F7-A	Mastic	50.77%	1.54%	47.69%	None Detected	<0.01%
F7-B	Floor Tile	10.87%	87.44%	1.70%	None Detected	<0.01%
F7 <b>-</b> B	Mastic	42.27%	16.49%	41.24%	None Detected	<0.01%
F7-C	Floor Tile	9.92%	88.94%	1.14%	None Detected	<0.01%
F7-C	Mastic	48.15%	5.56%	46.30%	None Detected	<0.01%
F19-A	Floor Tile	17.89%	69.40%	12.71%	Chrysotile	2.54%
F19-A	Mastic	65.67%	12.69%	21.64%	Chrysotile	1.08%
F19-B	Floor Tile	21.56%	66.71%	11.73%	Chrysotile	2.35%
F19-B	Mastic	50.47%	27.10%	22.43%	Chrysotile	1.12%
F19-C	Floor Tile	23.00%	65.50%	11.50%	Chrysotile	2.30%
F19-C	Mastic	52.68%	22.32%	25.00%	Chrysotile	1.25%
M1-A	Pipe Insulation	35.34%	21.85%	42.81%	Chrysotile	17.12%
M1-B	Pipe Insulation	30.59%	24.08%	45.34%	Chrysotile	18.13%
M1-C	Pipe Insulation	34.72%	14.35%	50.93%	Chrysotile	20.37%

Analyst:

Scott M. Ward

Scott M. Ward, Ph. D.

Lab Director

These results apply to the sample(s) as received. This report is for the exclusive use of the addressed client and shall not be reproduced except in full, without written approval by Eurofins J3 Resources, Inc. (EJ3). All samples received in good condition unless otherwise noted. This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. When no asbestos is detected, the asbestos percentage is reported as less than the method detection limit of 0.25%.

NVLAP Lab Code: 200525-0; TDSHS License: 30-0273

**J3 Resources** 



Open Lab Fee

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**J3 Resources** 

Submitter Name:	Shannon Nast			Bill to:     Eurofins Aerotech       Address:							
Company:	Eurofins EMLab P&K Phoenix										
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<ul> <li>○ Lead in Air - NIOSH 7082</li> <li>○ Was</li> <li>○ Lead in Wipes - SW846 7420/3050B</li> <li>○ Soil/</li> </ul>		O Waste O Soil/S	inking Water – EPA 200.9 O astewater – SW846-7421 O il/Sludge – SW846-7421 O		O Elements in Air – NIOSH 7300         O RespirableCrystalli           O Wipe/Soil – SW846-6010B         O NIOSH 7500 / OSH           O Effluent – SW846-6010B         O NIOSH 0500 – Tota           O Welding Fume – NIOSH 7300M         O NIOSH 0600 – Res		00 / OSHA 142 10 – Total Parti 10 – Respirable	a culates			
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'TAT's are in Business Days rather than Hours (i.e.1 Day TAT = End of Next Business Day) Eurofins J3 Resources, Inc. + 6110 West 34th Street + Houston, Texas 77092 + tel: 713-290-0221 + fax: 713-290-0248

Eurofins J3 Resources, Inc. + 3113 Red Bluff Road + Pasadena, Texas 77503 + tel: 713-290-0223 + fax: 713-290-0248

# **IH CHAIN OF CUSTODY**

🔅 eurofins

**J3 Resources** 

# Project Name EMLab ID 3090316

Project Number \_

# SAMPLE IDENTIFICATION

Page \_\_\_\_ of \_\_\_\_

	SAMPLE LOCATION / MATERIAL	VOLUME/CONDITION
F7-A	Floor Tile & Mastic	
F7-B	Floor Tile & Mastic	
F7-C	Floor Tile & Mastic	······································
F19-A	Floor Tile & Mástic	
F19-B	Floor Tile & Mastic	
F19-C	Floor Tile & Mastic	
M1-A	Pipe Insulation	
М1-В	Pipe Insulation	··· <u>, ··· ,</u>
M1-C	Pipe Insulation	
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Eurofins J3 Resources, Inc. + 6110 West 34<sup>th</sup> Street + Houston, Texas 77092 + tel: 713-290-0221 + fax: 713-290-0248 Eurofins J3 Resources, Inc. + 3113 Red Bluff Road + Pasadena, Texas 77503 + tel: 713-290-0223 + fax: 713-290-0248



# Appendix D

Prior Reports



Asbestos and Lead Survey Report of Findings 150 North Plaza Circle Miami, Arizona

Prepared for:

Arizona Department of Environmental Quality 1100 West Washington Street Phoenix, Arizona 85007

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc. 4600 East Washington Street, Suite 600 Phoenix, Arizona

October 20, 2016

Project No. 14-2016-2027

October 20, 2016 Project No. 14-2016-2027



Arizona Department of Environmental Quality 1110 West Washington Street Phoenix, Arizona 85007

Attn: Ms. Jennie E. Curé

#### Re: Asbestos and Lead Survey Report of Findings FY17 ABRC TO – Bullion Plaza Cultural Center & Museum – Basement Areas 150 North Plaza Circle Miami, Arizona ADEQ No: ADEQ14-076786

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) is pleased to submit this report of findings for the asbestos and lead survey conducted for the basement areas of the Bullion Plaza Cultural Center and Museum located at 150 North Plaza Circle in Miami, Arizona. Amec Foster Wheeler has performed the work outlined in the report's scope of services.

This report describes the scope, procedures, summary of findings, and qualifications of the asbestos survey. The types, locations, and estimated quantities of asbestos and lead-containing materials are identified. Additionally, laboratory analysis reports and personnel accreditations are included in the report appendices.

Amec Foster Wheeler appreciates this opportunity to provide professional consulting services to the Arizona Department of Environmental Quality and we look forward to continuing our relationship.

Respectfully submitted,

Amec Foster Wheeler Environment & Infrastructure, Inc.

Pamela Walrath EPA Building Inspector

Reviewed by:

Tim Ostapuk, CIEC Senior Project Manager

4600 East Washington Street, Suite 600 Phoenix, Arizona 85034 Tel (602) 733-6000 Fax (602)733-6100 www.amecfw.com

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   Amec Foster Wheeler Sample Information and Results
- Table 2
   Lead Paint Chip Samples and Results

### LIST OF FIGURES

- Figure 1 Site Map
- Figure 2 Site Observation Diagram, Sample and ACM Locations

### LIST OF APPENDICES

- Appendix A Personnel Accreditations
- Appendix B Fiberquant Analytical Services Laboratory Reports and Chain of Custody Documentation

### EXECUTIVE SUMMARY

At the request of the Arizona Department of Environmental Quality (ADEQ), Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) is providing this Asbestos and Lead Survey Report of Findings for the basement area of the Bullion Plaza Cultural Center & Museum located at 150 North Plaza Circle in Miami, Arizona (the site). The basement is comprised of four areas described as entry, boiler room, left room and right room as well as a crawlspace under the two wings of the building. Our survey is intended to provide information to ADEQ regarding the presence and location of asbestos-containing materials (ACMs) and lead-based paint that comprise these areas.

Of the 15 suspect materials identified by Amec Foster Wheeler, five (5) of the materials were determined by laboratory analysis to contain asbestos in excess of one percent (1%) or assumed to contain asbestos. Materials containing more than 1% are considered asbestos containing as defined by the United States Environmental Protection Agency (USEPA) and Occupational Safety and Health Administration. The five ACMs identified are:

- Material #3 (Thermal Systems Insulation (TSI), Straight Runs Approximately 400 linear feet (lin. ft.) – Throughout Basement and Crawlspaces.
- Material #4 (Thermal Systems Insulation (TSI), Elbows) Approximately 15 each Throughout Basement Spaces (including confined space).
- Material #15 (Miscellaneous, Category I Non-Friable): Gray Gaskets Approximately 2 each – Boiler room on equipment
- Assumed ACM (Thermal Systems Insulation (TSI), Boiler Insulation Wrap Approximately 2 each – On Boiler Equipment
- Assumed ACM (Miscellaneous, Category I Non-Friable), Disposal Bags of Removed Building Material – Approximately 20 each

The building components tested for lead-based paints had concentrations of lead ranging from 200 to 3,900 parts per million (ppm). All of the building components tested by paint chip analysis contained concentrations of lead less than 5,000 parts per million milligrams (ppm) and or 0.5% by weight. Paint that contains concentrations of lead equal to or greater than 5,000 ppm and or 0.5% by weight is considered lead-based paint as defined by the United States Department of Housing and Urban Development and the USEPA. However, any detectable lead in paint makes it lead paint for purposes of complying with OSHA regulations and determining worker exposure.

### 1.0 **PROJECT INFORMATION**

At the request of the Arizona Department of Environmental Quality (ADEQ), Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) is providing this Asbestos and Lead Survey Report of Findings for the basement areas located at 150 North Plaza Circle in Miami, Arizona (the site) (**Figure 1**). The basement is comprised of four areas described as entry, boiler room, left room and right room as well as a crawlspace under the two wings of the building.

General construction of the basement consists of concrete floors and walls and plaster ceiling. Boilers are present in the boiler room and pipe runs extend from the boiler systems into the crawlspaces under each wing of the building. The pipe run insulation was generally in poor condition and had deteriorated in the basement rooms and crawlspaces. Disposal bags of removed building materials from other areas of the site were stored on the entry of the basement.

### 2.0 SCOPE OF SERVICES

### 2.1 Asbestos Survey

The scope of services for the asbestos survey included an inspection that consisted of bulk sampling and laboratory analyses of the building materials that comprised the basement areas located at the site. The primary intent of Amec Foster Wheeler's services was to assess the presence, extent, and condition of suspect asbestos-containing materials (ACM) in the structures (refer to **Figure 2**). Suspect ACM is defined as those classes of materials that have, in the past, been known to contain asbestos and in some formulations.

Amec Foster Wheeler's services included a physical inspection of the building materials that comprised the structure and the collection and analysis of samples to assess the presence of ACM. In accordance with the Asbestos Hazard Emergency Response Act (AHERA) protocol and American Society for Testing and Materials (ASTM) E 2356-14, "Standard Practices for Comprehensive Building Asbestos Survey," homogeneous areas (HAs) of suspect materials were classified as thermal systems insulation (TSI) and miscellaneous. Identified suspect materials were physically evaluated to determine friability.

The inspection included the identification of both "Friable" and nonfriable materials. Friable materials are those, which when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. These materials were classified as regulated ACM, Category I nonfriable ACM, or Category II nonfriable ACM in accordance with National Emission Standard for Hazardous Air Pollutants regulations.

The field portion of the work included a visual inspection of the interior of the basement areas at the site and the collection and analysis of samples of suspect ACM.

Amec Foster Wheeler's certified AHERA Building Inspector, Ms. Pam Walrath (AHERA Certification #10051-1159397-143233), conducted the field portion of the work on September 27, 2016. A copy of her accreditation is available in **Appendix A**.

During the survey, suspect materials were noted and grouped by HA. For bulk sampling purposes, an HA is defined as an area that contains materials suspect of containing asbestos that seem by

texture and color to be uniform and applied or installed during the same general time period. Amec Foster Wheeler's inspectors also evaluated the friability of each material by physically assessing each of the suspect materials.

Amec Foster Wheeler collected bulk samples from the building materials identified during the asbestos survey shown in **Table 1**. The materials sampled, along with their physical characteristics, were collected in general accordance with AHERA bulk sampling and ASTM protocols as they apply to the number of samples for each HA. Samples were collected by Amec Foster Wheeler's accredited building inspector, the samples were labeled, and appropriate chain-of-custody documentation was completed.

Samples were delivered to Fiberquant Analytical Services, Inc. (Fiberquant) in Phoenix, Arizona, for visual inspection and microscopic analysis. Samples were analyzed using polarized light microscopy (PLM) coupled with dispersion staining as outlined in United States Environmental Protection Agency (USEPA) Method 600/R-93/116.

The percentage quantification of individual sample constituents was determined by visual estimation. Under regulations promulgated by the USEPA, ACMs are defined as those materials that contain more than one percent (1%) of specified asbestiform minerals. Bulk samples determined to contain more than 1% of specified asbestiform minerals are referred to as "positive." All the bulk samples collected during the inspection were analyzed. Material samples that were less than five percent (5%) asbestos-containing by PLM were analyzed using the point count method.

### 2.2 Lead Survey

Paint chips were collected of painted building components at the site. The materials sampled are listed in **Table 2**. The paint chip samples were delivered to Fiberquant for Atomic Absorption Flame (AAF) analysis.

### 3.0 SUMMARY OF ASBESTOS AND LEAD ANALYSIS

### 3.1 Asbestos Sampling Results

Of the 17 suspect materials identified by Amec Foster Wheeler, five (5) of the materials were determined by laboratory analysis to contain asbestos in excess of 1%. Materials containing more than 1% are considered asbestos containing as defined by the USEPA and Occupational Safety and Health Administration (OSHA). Copies of Fiberquant's laboratory reports are included in **Appendix B**.

- Material #3 (Thermal Systems Insulation (TSI), Straight Runs Approximately 400 linear feet (lin. ft.) – Throughout Basement and Crawlspaces. The pipe run insulation was generally in poor condition and had deteriorated in the basement rooms and crawlspaces. The surrounding building surfaces and items stored in the basement and bare soil of the crawlspaces may be impacted by asbestos from the pipe insulation.
- Material #4 (Thermal Systems Insulation (TSI), Elbows) Approximately 15 each Throughout Basement Spaces (including confined space).

- Material #15 (Miscellaneous, Category I Non-Friable): Gray Gaskets Approximately 2 each – Boiler room on equipment.
- Assumed ACM (Thermal Systems Insulation (TSI), Boiler Insulation Wrap Approximately 2 each – On Boiler Equipment.
- Assumed ACM (Miscellaneous, Category I Non-Friable), Disposal Bags of Removed Building Material Approximately 20 each.

### 3.2 Lead Survey Results

The building components tested for lead-based paints had concentrations of lead ranging from 200 to 3,900 parts per million (ppm). All of the building components tested by paint chip analysis contained concentrations of lead less than 5,000 parts ppm and or 0.5% by weight. Paint that contains concentrations of lead equal to or greater than 5,000 ppm and or 0.5% by weight is considered lead-based paint as defined by the United States Department of Housing and Urban Development and the USEPA. However, any detectable lead in paint makes it lead paint for purposes of complying with OSHA regulations and determining worker exposure. Fiberquant's results for AAF analysis report is provided in **Appendix B**.

### 4.0 SUMMARY AND RECOMMENDATIONS

- The following building materials at the basement areas contain asbestos at concentrations that would meet the definition of asbestos-containing material:
- Material #3 (Thermal Systems Insulation (TSI), Straight Runs Approximately 400 linear feet (lin. ft.) – Throughout Basement and Crawlspaces.
- Material #4 (Thermal Systems Insulation (TSI), Elbows) Approximately 15 each Throughout Basement Spaces (including confined space).
- Material #15 (Miscellaneous, Category I Non-Friable): Gray Gaskets Approximately 2 each Boiler room on equipment.
- Assumed ACM (Thermal Systems Insulation (TSI), Boiler Insulation Wrap Approximately 2 each – On Boiler Equipment.
- Assumed ACM (Miscellaneous, Category I Non-Friable), Disposal Bags of Removed Building Material Approximately 20 each.
- The building components tested for lead-based paints had concentrations of lead ranging from 200 to 3,900 ppm. Of all the paint chips collected none were at concentrations at or above the 5,000 ppm that would be considered lead based paint. However, any detectable lead in paint makes it lead paint for purposes of complying with OSHA regulations and determining worker exposure.
- The identified ACM should be removed by a licensed asbestos abatement contractor. The surfaces of the basement as well as the items that are stored in the basement should be cleaned of any visible ducts that may contain asbestos. The crawlspace should also be

cleaned by the abatement contractor. The surfaces with lead-containing paint should also be removed if it is to be impacted by future renovation activities.

- The costs to remove the ACM will be determined following a future bid walk with abatement contractors.
- If any suspect materials not identified during this survey are to be disturbed during future construction activities, these materials should be inspected by an accredited AHERA Building Inspector or USEPA Lead Risk Assessor for the collection and analysis of asbestos or lead.

### 5.0 LIMITATIONS

Amec Foster Wheeler has endeavored to observe the existing conditions associated with areas described in this report using generally-accepted procedures and the degree of care that is ordinary for others performing similar services. Regardless of the thoroughness of any inspection, there is always a possibility that some areas containing asbestos or lead may be inaccessible or different in composition from those at specific sample locations. Therefore, conditions at individual locations may not be as anticipated. The findings presented in this report are relevant to the dates of our site work and the scope of included services and should not be relied on to represent conditions at substantially-later dates.



# TABLES

,

October 20, 2016

Sample Numbers	HA Description and Location	Friable	Primary Color	Texture	Secondary Color	Condition	ACM?
		Basemo	Basement Areas September 27, 2016	mber 27, 2016			
1 A - C	Tan Wall Adhesive	No	Tan	Smooth	None	Good	No
2 A - C	Concrete Wall – Throughout Rooms	No	Gray	Hard	None	Fi Bain	No
3 A - C	Pipe Run Insulation – Straight Runs	Yes	Crème	Hard	White	Poor	50 – 80% Chrysotile
4 A - C	Pipe Elbows	Yes	Crème	Hard	White	Poor	10 - 20% Chrysotile
5 A - C	Stair Concrete	No	Gray	Hard	Gray	Fair	No
6 A - C	Foundation	No	Gray	Hard	White	Poor	No
7 A - C	Concrete Deck – Entry	No	Gray	Hard	None	Good	No
8 A – C	Wall Patch – Entry	No	White	Hard	None	까 않 목	No
9 A - C	Gasket – Red	No	Red	Pliable	None	Fi Bir	No

Table 1 Amec Foster Wheeler Sample Information and Results Asbestos and Lead Survey Report of Findings Bullion Plaza Cultural Center & Museum

Page 1

October 20, 2016

Assumed ACM	NA	Unknown	Unknown	Unknown	Yes	Disposal Bags of Removed Building Materials	Assumed ACM
Assumed ACM	Fair	White	Soft	White	No	Boiler Insulation Wrap	Assumed ACM
30 – 40% Chrysotile	Fair	None	Hard	Gray	No	Gasket – Gray	15 A – C
No	Fair	N/A	Hard	White	No	White Patch – Ceiling	14 A – C
No	Fair	None	Rough	Tan	No	Troweled Plaster Ceiling	13 A – C
No	Poor	None	Hard	R Red	No	Window Putty	12 A – C
No	Poor	White	Rough	Tan	Yes	Plaster Patch Boiler Room	11 A – C
No	Poor	White	Rough	Tan	Yes	Plaster Ceiling – Boiler Room	10 A - C
			mber 27, 2016	Basement Areas - September 27, 2016	Basem		
ACM?	Condition	Secondary Color	Texture	Primary Color	Friable	HA Description and Location	Sample Numbers

Asbestos and Lead Survey Report of Findings Bullion Plaza Cultural Center & Museum

Page 2

Asbestos and Lead Survey Report of Findings Bullion Plaza Cultural Center & Museum

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ble	
N	

	Lead Pain	Lead Paint Chip Samples and Results	les and Re	sults		
Sample Numbers	HA Description and Location	Primary Color	Texture	Secondary Color	Condition	Lead Results (ppm)
ADEQ-Pb-01	White Wall	White	Rough	None	Fair	200
ADEQ-Pb-02	Gray on Stairs	Gray	Smooth	None	Fair	3,800
ADEQ-Pb-03	Varnished Door	Varnish	Smooth	None	Good	3,900
ADEQ-Pb-04	Gray Paint on Wall	Gray	Smooth	None	Fair	1,600
ADEQ-Pb-05	Silver Pipe	Silver	Smooth	Black	Fair	1,700

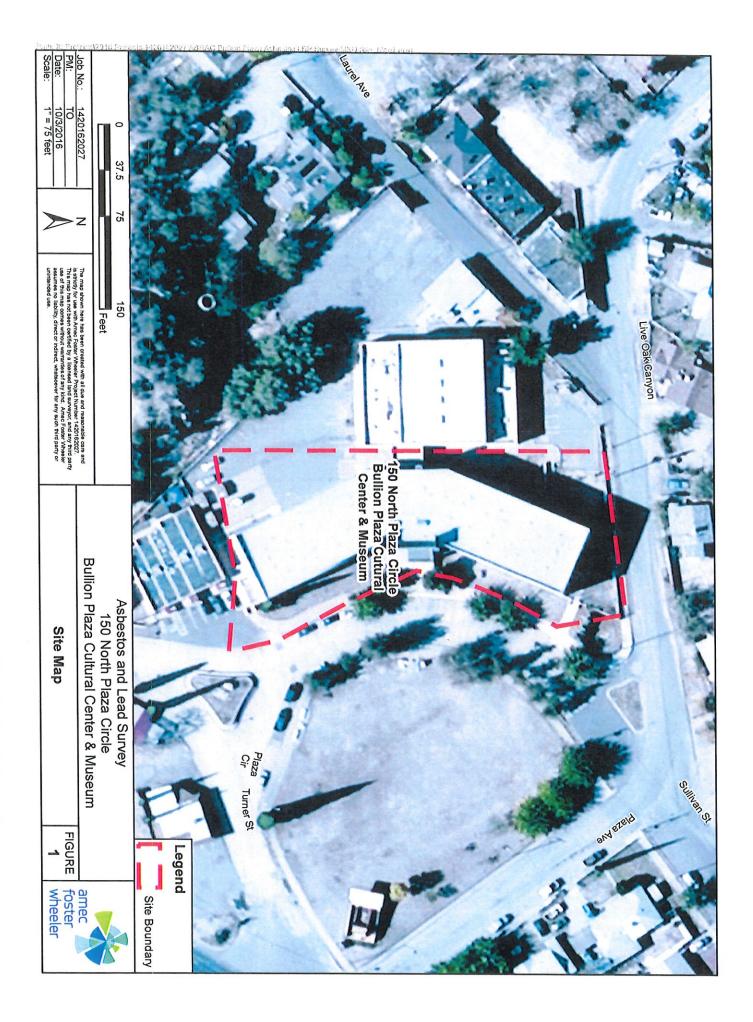
Notes:

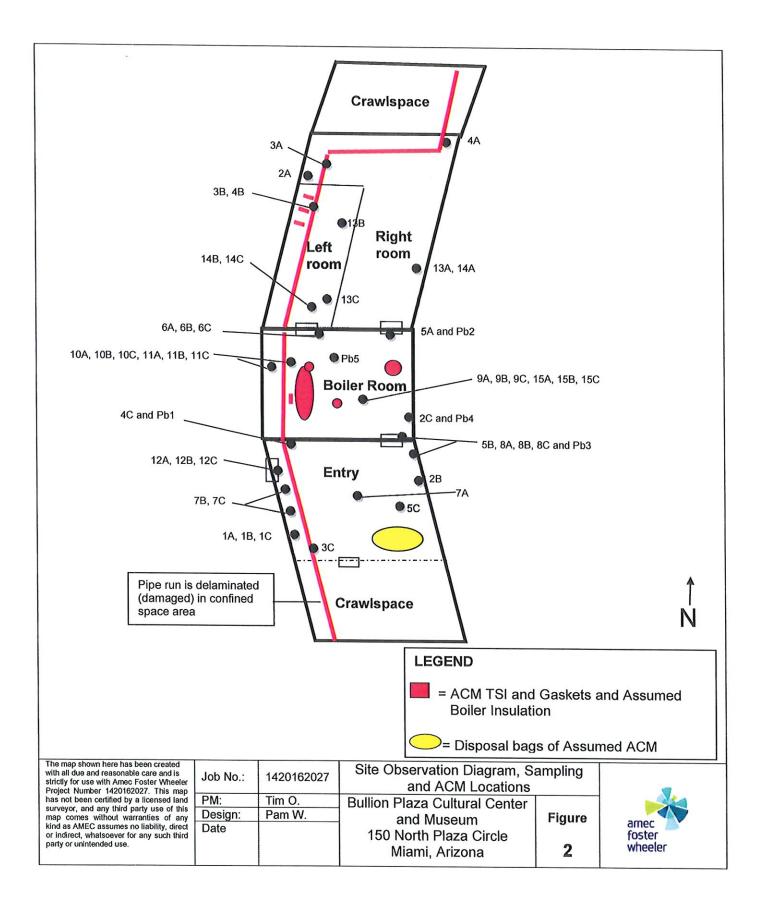
HA = homogenous area ID = identification

ppm = parts per million BRL = Below Reportable Limits



# FIGURES







# **APPENDIX A**

PERSONNEL ACCREDITATIONS

# THE ASBESTOS INSTITUTE

# Certifies that PAM WALRATH

has attended the EPA approved course

**Building Inspector Refresher** 

and successfully passed and completed the competency exam.

This training meets all requirements for asbestos accreditation under TSCA Title II.

Issue Date : 09-Dec 2015 Expiration Date : 09-Dec 2016

ASBESTOS

20033 N. 19th Avenue, Building S. Phoenix, AZ 85027 602 -8 64 - 6566 - www.theasbestoalnstitute.com



# **APPENDIX B**

# FIBERQUANT ANALYTICAL SERVICES LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION

Atomic Absorption Spectrometer (AAS) Analysis of Paint JobNumber: 201609830 Client: AMEC FOSTER WHEELER 4600 E WASHINGTON STE# 600 PHOENIX, AZ 85034-0000 Office Phone: (602) 733-6000 FAX: (602) 733-6100 # Samples: 5 AA Rec: 9/27/2016 Method: Modified SW 846 3050b/7420 Pb in paint by weight AA Analysis Client Job: 14-2016-2027 PO Number: Pending Report Date: 9/30/2016 **Date Analyzed:** 9/30/2016 Routing Number: -

ANALYTICAL SERVICES

FIBERQUANT

### 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 mis of concentrated HNO3 and one ml of 30% H2O2 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 mis, completing the digestion/extraction.

The sample and quality assurance extractions are then analyzed on a TJA M5 flame atomic absorption spectrometer. 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), 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. 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. Duplicate 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. Duplicate 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

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:**

### **Calibration Curve:**

Pb		16 AA Calibration Curve
FU		14-
Run # 11912	9/29/2016	
Instrument: M5-2	Standards: ppm avg. mAbs.	
	1 0.2 8	G G
	2 2 66	4
	3 10 304	2
	4 15 431	
	ax2 0.00001416	
	bx 0.02866955	
	c 0.00102403	abs
	R2 0.99997368	

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nalysis Results:			Job Numi	per: 2	01609830	)			AA	pw	
Lab Number	Cilent Number	Date	Condition	Weight (gm)	ug/ml	ml	DH	Analyte	wt %	ppm	RL(ppm)
2016-09830- 1	Pb 1	9/27/2016	acceptable	0.1518	1.2301	25	1	Pb	0.02	200	33
2016-09830-2	Pb 2	9/27/2016	acceptable	0.0928	14.216	25	1	Pb	0.38	3800	54
2016-09830-3	Pb 3	9/27/2016	acceptable	0.0156	2.4162	25	1	Pb	0.39	3900	320
2016-09830-4	Pb 4	9/27/2016	acceptable	0.1443	9.322	25	1	Pb	0.16	1600	35
2016-09830- 5	Pb 5	9/27/2016	acceptable	0.0462	3.1358	25	1	Pb	0.17	1700	110

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Analyst: MARTIN A. ESQUER

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Larry S. Pierce, Approved Accreditation Signatory

Printed: 30-Sep-16 Original Print Date: 30-Sep-16

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ANALYTICAL SERVICES
Fiberquant Analytical Services 5025 S. 33rd St.; Phoentx, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558; Info&fibergwant.com
Analysis Request/Chain-of-Custody Form
Submitted by (Company) AMEC FOSTER WHYZELER
Address
City, State, Zp Code Phy. M2- Phone FAX
Phone FAX
Email pam. walrath Pamectu. com
Invoice to (Company) AMEC FW
Address
City, Stale, Zip Code
Ptons FAX
Contact (print) PAR WALLALI
Sampled by (signature)
Job Mumber or Project Name 14-20/6-2027
PO Number

	sis Method ONE METH					(circi	ound-ti e one}	me
		i.	Ann		Rus	h	Norm	Ext.
Asbestos by PLM	Method > In Analyze > If ATPF then > Single Layer Prote	_	ATPF ayer by Sampl	8	Urgent Rush <3 hrs	<6 hrs	1-3 days	15- 30 days
Fibers by PCM	Method > 7400	(Area	) ORM (Person	ai)	<4 hr	5	24 hrs	•
	in Alt>AHI	ERA	Mod. AHE	AF	<6 hv	8	24 hrs	3-5 days
Asbestos by TEM	in Water* > W in Butk (Annex2)	later > C	Sludge hallield Full Qua	int.	1•2 da	1 <b>75</b>	3-5 days	NVA
		M D57	'55		3-5 da	iys	5·10 days	N/A
ԲԵ Եչ FLAA	E1792 compliant	r> N> > e> ying v	Other MCE FG by Area (mg/cm <sup>2</sup> by Weight (ppm fpes used are AS		<6 h	rs (	2-3 days	Diva
Fungi	Air Sample > Bulk >		on Aller Oth Imple Swab altative (% & type		<6 h	13	1-2 days	N/A
	Tape Lill > -	Qua	inlitative (type/cm	2)		•	ĺ	
Soot	ASTM D6602-03	ъ	Optical		<6 h	rs	1-2 days	N/A <sup>*</sup>
		-	Optical & TEM		t-2 di	ays	3-5 days	N/A
Other					Cai	1	Cali	Γ

Sample # (1 per line)	Description/Location	Sa	mple Date	Sample Time	Vol. or Area
1) Pb/	WHITE WALL		127/16		BY WEIGH
2) Pb2	GRAY ON STAIRS		- 410		T WEIGH
<sup>3)</sup> Pb3	VARNISHED DOOR			-	<u>├</u> <del> </del>
<sup>4)</sup> Pb 4	GRAY PAINT ON WALL				╏╶╏────┥
<sup>5)</sup> Pb.5	GRAY PAINT ON WALL SILVER FIPE				
6)			-		
.7)					
8)					1
. 9)					
10)					
11)					
12) ·					1
13)					
14)					-
15)					
16)					
17)	· · · · · · · · · · · · · · · · · · ·				
18)					1
19)	······································	·····			
20)					
1)Reling dished-by:	1/1 Date: 27/10 Time: 50	3)Relinquished by:		Date:	Time:
2)Received by:	9 gare 27 1/0 Time 50	4)Received by:		Date: '	Time:
* TEM mater: Sampler's the Reparted by State en Arizon	Print Name	۶	berquant assigned Job Number>	ZUID	09830
Review of Analysis	s Request (Initials): 20			Page	N – –

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.

\\Larryz230\c\controlleddocuments\Forms Word\cocversion32.doc created: 7/1/88; current: 12/16/2014 Rev: LSP

JobNumber:	2016098	31		
Client:	AMEC FOSTE			
	4600 E WASHI	NGTON STE# 600		
	PHOENIX, AZ	850		
	Office Phone: FAX:	(602) 733-60 (602) 733-61		
Samples: 45	PLM Rec:	9/27/2016 Metho	d: EPA 600/R-93/116	The "New" Method; see below
lient Job: 14-201	6-2027			PO Number: Pending
Report Date: 9	/29/2016	Date Analyzed:	9/28/2016	Routing Number: -

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 quantitation, 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.

Current EPA and NESHAP regulations designate a result of  $\leq 1\%$  asbestos as "negative" and  $\geq 1\%$  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 40CFT 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 and accuracy to point counting. Phalmity is estimated for the purposes of decriming when to point count. Phalmites 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 analysis, 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 analysis 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 asbestofrom 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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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 #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:**

Samp	le Number	Lab M	Number	Appare	nt Sample Type *	Positive Layer Yes or No
Layer	Color	Apparent Layer Type *	As	bestos Result	S	
ample # <u>1A</u>		2016	5-09831- 1	Adhesi	ve/caulk	Positive Layer? No
Layer # 1	tan	mastic	no a	asbestos deter		
Layer # 2	white	texture/joint compound	no a	asbestos dete	cted	
Sample # <u>1B</u>		2016	5-09831- 2	Adhesi	ve/caulk	Positive Layer? No
Layer # 1	tan	mastic		asbestos dete	•	roomre Edjerr no
Layer # 2	white	texture/joint compound		asbestos dete		
Sample # <u>1C</u>		2016	5-09831- 3		ve/caulk	Positive Layer? No
Layer # 1	tan	mastic		asbestos dete		rositive Edyerr No
Layer # 2	white	texture/joint compound	no	asbestos dete	cted	
Sample # <u>2A</u>			5-09831- 4	Cemen		Positive Layer? No
Layer # 1	gray	concrete		asbestos dete		TOSITIVE LUYETE NO
Layer # 2	off-white	miscellaneous		asbestos dete		
Sample # 2B			5-09831- 5	Cemen		Positive Layer? No
Layer # 1	gray	paint		asbestos dete		POSICIVE Edger: NO
Layer # 2	gray	concrete		asbestos dete		
Sample # 2C	5,		5-09831- 6			Depitive Lover2 Me
Layer # 1	gray	paint		asbestos dete		Positive Layer? No
Layer # 2	gray	concrete		asbestos dete		
Sample # <u>3A</u>	9.01		6-09831- 7		cieo	
Layer # 1	off-white	duct tape			ila achaotae	Positive Layer? Yes
Sample # <b>3B</b>	on-white	•		-70% chrysoti.	le aspestos	
• —	off-white		6-09831-8			Positive Layer? Yes
Layer # 1	on-white	duct tape		-60% chrysoti	le aspestos	
Sample # <u>3C</u>	off white		6-09831-9		u	Positive Layer? Yes
Layer # 1	off-white	duct tape		-80% chrysoti	le aspestos	
Sample # <u>4A</u>			6-09831- 1			Positive Layer? Yes
Layer # 1	off-white	insulation wrap		asbestos dete		
Layer # 2	gray	insulation mud		-20% chrysotl	le asbestos	
Sample # <u>4B</u>			6-09831- 1			Positive Layer? Yes
Layer # 1	off-white	insulation wrap		asbestos dete		
Layer # 2	gray	Insulation mud		-20% chrysotl	le asbestos	
5ample # <u>4C</u>			6-09831- 1			Positive Layer? Yes
Layer # 1	off-white	paint	no	asbestos dete	ected ?	
Layer # 2	white	texture/joint compound	no	asbestos dete	ected	
Layer # 3	off-white	insulation wrap	no	asbestos dete	ected	
Layer # 4	gray	Insulation mud	10	-20% chrysoti	ile asbestos	
Sample # <u>5A</u>		201	6-09831- 1	3 Cemer	ntitious	Positive Layer? No
Layer # 1	gray	concrete	no	asbestos dete	ected	
Sample # <u>5B</u>		201	6-09831-1	4 Cemer	ntitious	Positive Layer? No
Layer # 1	gray	paint	no	asbestos dete	ected	
Layer # 2	gray	concrete	по	asbestos dete	ected	
Sample # <u>5C</u>		201	6-09831-1	.5 Cemer	ntitious	Positive Layer? No
Layer # 1	gray	paint	по	asbestos dete	ected	•••••
Layer # 2	gray	concrete	no	asbestos dete	ected	
Sample # <u>6A</u>		201	6-09831-1	6 Ceme	ntitious	Positive Layer? No
Layer # 1	gray	concrete	по	asbestos dete	ected	,
Sample # 6B		201	6-09831-1	7 Ceme	ntitious	Positive Layer? No
Layer # 1	gray	concrete		asbestos det		rositive Edjert Ho
Sample # 6C			6-09831- 1		ntitious	Positive Layer? No
Layer #1	gray	concrete		asbestos det		LOSITIAG FOAGLE NO
Sample # <u>ZA</u>	31		.6-09831- 1		ntitious	Positive Laver? No
Layer # 1	white	sealant		asbestos det		POSITIVE LOVERY IND
Layer # 2		concrete		) asbestos det		
	gray					
Sample # <u>7B</u>	white		6-09831- 2		ntitious	Positive Layer? No
Layer # 1	white	sealant		o asbestos det		
Layer # 2	gray	concrete	no	o asbestos det	ected	

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Sample # 7C			2016-09831	- 21	Cementitious	Pacitiva Lavara	No
Layer # 1	white	sealant			stos detected	Positive Layer?	NO
Layer # 2	gray	concrete			stos detected		
Sample # <u>8A</u>			2016-09831		Wall System	Positive Layer?	No
Layer # 1	tan	texture/joint comp			stos detected	rositive Layer	NU
Sample # 8B			2016-0983		Wall System	Positive Layer?	Mo
Layer # 1	tan	texture/joint comp			stos detected	POSICIVE Layers	140
Sample # 8C		., ,	2016-0983		Wall System	Positive Laver?	No
Layer # 1	tan	texture/joint comp			stos detected	FUSITIVE Layer	INO .
Sample # 9A		.,	2016-0983		Adhesive/caulk	Decitive Lever2	Ma
Layer # 1	red	gasket	2020 0000		stos detected	Positive Layer?	140
Sample # 9B		-	2016-0983		Adhesive/caulk	Positive Layer?	No
Layer # 1	red	gasket			stos detected	FUSILIVE Layer	NO
Sample # <u>9C</u>		-	2016-0983		Adhesive/caulk	Positive Layer?	No
Layer # 1	red	gasket			stos detected	FUSITIVE Layer	NO
Sample # 10A		-	2016-0983		Wall System	Positive Layer?	No
Layer # 1	off-white	plaster			stos detected	FUSITIVE Layers	140
Sample # 10B		•	2016-0983		Wall System	Positive Layer?	Mo
Layer # 1	off-white	paint			stos detected	POSITIVE Layer	NO
Layer # 2	white	plaster (top coat)			stos detected		
Layer # 3	tan	plaster (scratch co	at)		stos detected		
Sample # 10C			2016-0983		Wall System	Positive Layer?	No
Layer # 1	off-white	paint			stos detected	FUSIAVE Layer	NU
Layer # 2	white	plaster (top coat)			stos detected		
Layer # 3	tan	plaster (scratch co	at)		stos detected		
Sample # 11A			2016-0983		Wall System	Positive Layer?	Mo
Layer # 1	off-white	plaster			stos detected	FUSITIVE Layer:	NO
Sample # 11B		•	2016-0983		Wall System	Positive Layer?	No
Layer # 1	off-white	plaster			stos detected	rostave Loyer:	HQ.
Sample # 11C			2016-0983		Wall System	Positive Laver?	No
Layer # 1	off-white	plaster			stos detected	rusiave Laver:	NU
Sample # 12A		•	2016-0983		Adhesive/caulk	Positive Layer?	No
Layer # 1	red	sealant			stos detected	rositive tayer;	NO
Sample # <u>12B</u>			2016-0983		Adhesive/caulk	Positive Layer?	No
Layer # 1	red	sealant			stos detected	rositive cayer:	NU
Sample # 12C			2016-0983		Adhesive/caulk	Positive Layer?	No
Layer # 1	red	sealant			stos detected	rositive Layers	NU
Sample # 13A			2016-0983		Wall System	Positive Laver?	Mo
Layer # 1	off-white	plaster			stos detected	FOSIGIVE Layers	NO
Sample # <u>13B</u>			2016-0983		Wall System	Positive Layer?	No
Layer # 1	off-white	plaster			estos detected	Tostave Edyard	110
Sample # <u>13C</u>			2016-0983		Wall System	Positive Layer?	No
Layer # 1	off-white	plaster		-	stos detected	105kive Loyers	no
Sample # <u>14A</u>			2016-0983		Wall System	Positive Layer?	No
Layer # 1	white	powder			estos detected	i ositive Edycit	110
Sample # <u>14B</u>			2016-0983	1-41	Wall System	Positive Layer?	No
Layer # 1	white	powder			estos detected	rositive cuyeri	110
Sample # <u>14C</u>			2016-0983		Wall System	Positive Layer?	No
Layer # 1	white	powder			estos detected	. source cuyell	
Sample # 15A			2016-0983		Insulation	Positive Layer?	Yes
Layer # 1	gray	gasket			6 chrysotile asbestos	. contro cayon	
Sample # 15B			2016-0983		Insulation	Positive Layer?	Yes
Layer # 1	gray	gasket			6 chrysotile asbestos	. source Layer:	103
Sample # 15C			2016-0983		Insulation	Positive Layer?	Yes
Layer # 1	gray	gasket		30-40%	6 chrysotile asbestos	· contro corti	,00
	···· ,				-		

\* 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.

Phone: 602-276-6139 14

Sample	alysis Details			Jo	b Nun	nber:	2	0160	9831	14	-2016-	2027			
Analy	e 1A zed By MCJ 9/28/ jeneous No		Lab An? O # Layers 2	Number )K A	pparen	9831- 1 It Smp Pos Lay	Туре /				b-Samp		Condition rous Solid	on:acce	ptable
	Fibrous Components	(in app	vrox. decrea	ising orde	r): fill	er, poly	mer,				•				
La	yers							•••	F	ercents	of Each	Fiber			
#	Layer Type	%	Color	Friability		Fib 1	1	Fib 2	1	Fib 3	1	ib 4	Fib 5		Fib 6
1	mastic	40	tan	1	]	n.d.		-	1	+		-	-		-
2	texture/joint compound	60	white	3		n.d.		-		-		- [	*		-
	Total %	100		Overall 9	° [	n.d.		-	1	-		-	-		
			Fiber Id	entification:	none										
Fi	ibers		1	Color	Mrph		Pleo						ndex Deter		
1	none				errpn (	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2															
4															4
5															
6						i								I	
	Analytical Note						<del></del>								
Procedu	ure: tweased apart usi	ng torce	ps. Procedure		on of n	natrix u	sing so	vent.							
Sampl	<b>le</b> 18		Lab	Number	2016-0	)9831- (	2	Sampl	ed: 9/2	27/2016			Conditi	on:acc	eptable
-		/2016	An? (		pparer	nt Smp	Туре	Adhesi	ve/caul	k		Non-fit	orous Solid		
	geneous No		# Layers 2			Pos Lay				# St	ıb-Sam	ples6			
	Fibrous Components	; (in ap	prox. decrea	asing orde	ar): 11	ler, poly	ymer,								
										Percents	of Each	Fiber			
#	Layer Type	%	Color	Friability	<u>_</u>	Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5		Fib 6
1 2	mastic texture/joint compound	40 60	tan white	1 3	┥┝───	<u>n.d.</u>		-		-		-	-		
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Non-Elizous Dimonstration Prive Comentition Prive Commentations Ford Prive State Stat	LM Analysis Details			Jo	b Nur	nber:	2	0160	9831	14	-2016-	2027				
Parcents of Each Fiber           Parcents of Each Fiber           Parcents of Each Fiber           Price in an in ad.           Price in ad.           Price in ad.           Total % 100         Overall %           Price in ad.         -         -           Fiber in addition of matrix using dilute HCI acid.           Price in ad.         Color Mrgh 100 Piec in ad.         Col Piec in ad.         Colspan="2">Col Piec in ad.         Col Piec in ad.         Col Piec in ad.         Col Piec in ad.           Piece in ad.         Col Piece in ad.         Colspan="2">Piece in ad.         Colspan="2"         Colspan="2"         Colspan="2"	tomogeneous No		An? C # Layers 2	ok A	pparen P	it Smp 'os Lay	Type er? No	-		-	b-Samı			on:acce	ptable	
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Item mone       Perfective Index Determinations         none       Color       Mrph       tso       Pice       Bit       Eig       Ein       Oil       Col Pr       Pr       Pr       Col Pr       Pr       Col Pr       Pr       Col Pr       Pr       Pr       Pr       Pr       Col Pr			 Fiber Id	entification:	Inona				 1		1	I				
Induct         Color         Mrph         Iso         Pico         Bit         Big         Ext         Oil         Col Par         Rit Par <th ri<="" td=""><td>······</td><td></td><td></td><td>••••••••</td><td>(10110</td><td></td><td><b>_</b></td><td></td><td></td><td></td><td></td><td>ofractive )</td><td>ndou Data</td><td></td><td></td></th>	<td>······</td> <td></td> <td></td> <td>••••••••</td> <td>(10110</td> <td></td> <td><b>_</b></td> <td></td> <td></td> <td></td> <td></td> <td>ofractive )</td> <td>ndou Data</td> <td></td> <td></td>	······			••••••••	(10110		<b>_</b>					ofractive )	ndou Data		
none       none       none       none         ple Analytical Note       none       none       Non-Horous Solid       Condition:acceptable         mairzed By MCJ       9/28/2016       An 20K       Apparent Smp Type       Yencents of Each Files       Non-Horous Solid         ton-Fibrous Components (in approx. decreasing order):       power, rock,       Experime       Percents of Each Files       none	Fibers			Color	Mrph	Iso	Pleo	Bi	Elg	Ext				-		
Decedure: tweesed apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.         Imple 2/8       Lab Number 2016 O9831-5       Sampled: 19/27/2016       Condition: acceptable         Imple 2/8/ 015       An? OK       Aparts 2016 O9831-5       Sampled: 19/27/2016       Condition: acceptable         Imple 2/87 OK       Aparts 2016 O9831-5       Sampled: 19/27/2016       Condition: acceptable         Pose Layer? No       # Sub-Samples4         Port of # Sub-Samples4         Port of # Sub-Samples4       Pose Layer? No       # Sub-Samples4         Port of # Sub-Samples4       Proc of # Sub-Samples4         Imple 1/2       Port of # Sub-Samples4         Part of # Sub Place       Bit Elig       Ent of # Sub Place       Bit Elig       Ent of # Sub Place       Origon Place       Place <th< td=""><td></td><td>ione</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		ione														
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Impla 28       Lab Number 2016-09831- 5       Sampled: 9/27/2016       Condition: acceptable         Non-fibrous Components (in approx. decreasing order):       pos Layer Non       # Sub-Samples 4         Implat: 2       Pos Layer Non       # Sub-Samples 4         Implat: 2       Price 2       Pib 2       Fib 3       Fib 4       Fib 5       Fib 3       Fib 4       Fib 5       Fib 10       Refractive Index Determinations         Fiber       Color       Marking Intervention       Refractive Index Determinations         Fiber       Refractive Index Determinations         Fiber Mentification:       roce         Refractive Index Determinations         Refractive Index Determinatins	mple Analytical Note															
Color Priability       Pibers       Color Priability       Piber Bit Elg Ext       Colspan="2">Colspan="2"       Colspan="2"        Colspan="2"       Colspan="2"       Colspan="2"       Colspan="2"        Colspan="2" <th colspa<="" td=""><td>rocedure: tweased apar</td><td>t using forc</td><td>eps. Procedur</td><td>e: dissoluti</td><td>on of n</td><td>natrix u</td><td>sing di</td><td>ute HC</td><td>l acid.</td><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td>rocedure: tweased apar</td> <td>t using forc</td> <td>eps. Procedur</td> <td>e: dissoluti</td> <td>on of n</td> <td>natrix u</td> <td>sing di</td> <td>ute HC</td> <td>l acid.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	rocedure: tweased apar	t using forc	eps. Procedur	e: dissoluti	on of n	natrix u	sing di	ute HC	l acid.						
Percents of Each Filer           Pib 4         Fib 3         Fib 4         Fib 5         Fib 6           1         paint         2         gray         1         n.d.         - </th <th>Analyzed By MCJ Iomogeneous No Non-Fibrous Compon</th> <th></th> <th>An?( # Layers 2</th> <th>ok <b>a</b></th> <th>pparei i</th> <th>nt Smp Pos Lay</th> <th>Type /er? No</th> <th>Cemen</th> <th>titious</th> <th># Sı</th> <th>ıb-Sam</th> <th>ples 4</th> <th></th> <th></th> <th>eptable</th>	Analyzed By MCJ Iomogeneous No Non-Fibrous Compon		An?( # Layers 2	ok <b>a</b>	pparei i	nt Smp Pos Lay	Type /er? No	Cemen	titious	# Sı	ıb-Sam	ples 4			eptable	
1       paint       2       gray       1       n.d.       100       11000       110000       110000       110000		-									of Each	Fiber				
2         concrete         98         gray         1         n.d.         -			1	····				Fib 2		Fib 3	F	ib 4	Fib 5		Fib 6	
Fiber       Color       Mrph       Iso       Place       Iso					_							-			-	
Fiber identification:         Refractive Index Determinations         Image: State Index Determinations			l gray					-		-		-	-		-	
Fibers       Color       Mrph       Iso       Pico       Bi       Eig       Ext       Col Par       Col Par       R1 Par       R1 Par         none       I	Total	% 100	]	Overail 9	/a	n.d.		-		-		-	-			
Color         Mrph         Iso         Pice         Bi         Eig         Ext         Oil         Col Per         RI Par         RI			Fiber to	entification:	none						1					
Color         Mrph         Iso         Pico         Bi         Eig         Ext         Oil         Col Par         Col Par         R I Par         R I Par         R I Par           none         I	Fibers			·							F	lefractive	Index Dete	rminatio	กร	
angle Analytical Note         ocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.         ample 2C       Lab Number 2016-09831- 6         Sampled WCI       9/28/2016       An 7 OK         Apparent Smp Type       Cementitious         Non-fibrous Solid       Mon-fibrous Solid         Somogeneous No       # Layers 2       Pos Layer? No         # Layer Type       %       Color         Friability       Fib 1       Fib 2       Fib 3         1       paint       2       gray       1         1       occertete       98       gray       1         1       paint       2       gray       1         1       occertete       98       gray       1         1       occertete       98       gray       1         1       concrete       98       gray       1         1       concrete       98       gray       1         1       concrete       98	<u></u>			Color	Mrph	Iso	Pleo	Bì	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per	
ample Analytical Note         ocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.         ample 2C       Lab Number 2016-09831- 6       Sampled: 9/27/2016       Condition: acceptable         Analyzed By MCJ       9/28/2016       An? OK       Apparent Smp Type Cementitious       Non-fibrous Solid         monogeneous No       # Layers 2       Pos Layer? No       # Sub-Samples 4         Von-Fibrous Components (in approx. decreasing order): powder, rock,       Percents of Each Fiber       #         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       paint       2       gray       1       n.d.       -	2	none		·							<u> </u>					
nple Analytical Note         ocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.         ample 22C       Lab Number 2016-09831- 6       Sampled: 9/27/2016       Condition: acceptable         Analyzed By MCJ       9/28/2016       An? OK       Apparent Smp Type       Cementitious       Non-fibrous Solid         ample 22C       Lab Number 2016-09831- 6       Sampled: 9/27/2016       Condition: acceptable         Analyzed By MCJ       9/28/2016       An? OK       Apparent Smp Type       Cementitious       Non-fibrous Solid         somogeneous No       # Layers 2       Pos Layer? No       # Sub-Samples 4         Non-Fibrous Components (in approx. decreasing order):       powder, rock,       Eavers         Layers	3	•								-		1				
pipe Analytical Note occidure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. ample 2C Lab Number 2016-09831- 6 Sampled: 9/27/2016 Condition: acceptable Analyzed By MCJ 9/28/2016 An? OK Apparent Smp Type Cementitious Non-fibrous Solid brongeneous No # Layers 2 Pos Layer? No # Sub-Samples 4 Non-Fibrous Components (in approx. decreasing order): powder, rock, Layers	4										[					
pipe Analytical Note occidure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. ample 2C Lab Number 2016-09831- 6 Sampled: 9/27/2016 Condition: acceptable Analyzed By MCJ 9/28/2016 An? OK Apparent Smp Type Cementitious Non-fibrous Solid brongeneous No # Layers 2 Pos Layer? No # Sub-Samples 4 Non-Fibrous Components (in approx. decreasing order): powder, rock, Layers	5				[	l	ļ				·					
ocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.         ample       2C       Lab Number 2016-09831- 6       Sampled: 9/27/2016       Condition: acceptable         Analyzed By MCJ       9/28/2016       An? OK       Apparent Smp Type Cementitious       Non-Fibrous Solid         Domogeneous No       # Layers 2       Pos Layer? No       # Sub-Samples 4         Non-Fibrous Components (in approx. decreasing order):       powder, rock,         Layer Type       %       Color       Friability       Fib 1       Fib 4       Fib 5       Fib 6         Total %       Color       Frib 1       Fib 4       Fib 5       Fib 6         Total %       Color       Fib 1       Fib 2       Fib 4       Fib 5       Fib 6         Total %       Color       Mrph       Iso       Refractive Index Determinations         Fiber       Color       Mrph       Iso <td></td> <td></td> <td></td> <td></td> <td>L</td> <td><b>I</b></td> <td>I</td> <td></td> <td>1</td> <td>1</td> <td>L</td> <td>_<b>_</b></td> <td>I</td> <td>I</td> <td></td>					L	<b>I</b>	I		1	1	L	_ <b>_</b>	I	I		
ample 2C       Lab Number 2016-09831- 6       Sampled: 9/27/2016       Condition: acceptable         Analyzed By MCJ       9/28/2016       An? OK       Apparent Smp Type Cementitious       Non-fibrous Solid         Somogeneous No       # Layers 2       Pos Layer? No       # Sub-Samples 4         Non-Fibrous Components (in approx. decreasing order):       powder, rock,       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       paint       2       gray       1       n.d.       -       <		t using for	eps. Procedur	e: dissolut	ion of r	natrix i	isina di	luto HC	'l acid							
Analyzed By MCJ     9/28/2016     An? OK     Apparent Smp Type     Community (F)       Domogeneous No     # Layers 2     Pos Layer? No     # Sub-Samples 4       Non-Fibrous Components (in approx. decreasing order):     powder, rock,       Layers							Joing Ci									
#         Layer Type         %         Color         Friability         Fib 1         Fib 2         Fib 3         Fib 4         Fib 5         Fib 6           1         paint         2         gray         1         n.d.         -	Analyzed By MCJ Iomogeneous No Non-Fibrous Compo		An? # Layers 2	ок 🗚	ppare	nt Smp Pos La	o Type yer? No	Cemer	-	# S	ub-Sam	ples 4			eptable	
1       paint       2       gray       1       n.d.       - <td< td=""><td></td><td><b>5</b>7</td><td>Cala.</td><td>E-1-L-10-</td><td></td><td>mit</td><td></td><td>peta -</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		<b>5</b> 7	Cala.	E-1-L-10-		mit		peta -								
2       concrete       98       gray       1       n.d.       -			· r		У L			FID Z	<u> </u>	FID 3	<u> </u>				Fib 6	
Total %       100       Overall %       n.d.       -       -       -       -         Fiber Identification:       none       Image: Color       Mrph       Iso       Pieo       Bi       Eig       Ext       Oil       Col Per       RI Par       RI Par       RI Par         None       Image: Color       Mrph       Iso       Pieo       Bi       Eig       Ext       Oil       Col Per       RI Par       RI Par       RI Par         Image: None       Image: No			3							-					-	
Fiber Identification:       Nove       Refractive Index Determinations         Fiber none       Color       Mrph       Iso       Pleo       Bi       Elg       Ext       Oil       Col Per       RI Par       RI Par       RI Par         none       0<									   ····		1					
Fibers       Color       Mrph       Iso       Pleo       Bi       Elg       Ext       Oil       Col Per       RI Par	10(8)	·• [_100	_					-	l	-	l	-	*	<u> </u>		
Fibers       Color       Mrph       Iso       Pleo       Bi       Elg       Ext       Oil       Col Per       RI Per <td></td> <td></td> <td>Fiber I</td> <td>dentification:</td> <td>none</td> <td></td>			Fiber I	dentification:	none											
none       Iso       Preo       Bi       Eig       Ext       Oil       Col Per       RI Par       RI Par <td>Fibers</td> <td></td> <td></td> <td>Color</td> <td>A</td> <td></td> <td>I nº</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Fibers			Color	A		I nº			1						
mple Analytical Note rocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.	1	none		Color	мгри	150	Pieo	81	Elg	Ext		Col Par	Col Per	RIPa	r   RI Pe	
mple Analytical Note rocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.	2				<u> </u>			1	1	+		1		+	-	
mple Analytical Note rocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.	3						[			_						
mple Analytical Note rocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.	4 5				1	I		-				-				
mple Analytical Note rocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.	6			-			+					-				
rocedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.				1		. <b>I</b>	L		- l		l <b>L</b>	1			1	
5025 S. 33rd Street Phoenix. Arizona 85040.2816 Phone: 602,276,6130 1 800 743 2687 EAV. 602 076 4550	Procedure: tweased ana	rt using for	cens, Procedu	re: dissolut	tion of	matrix	usino d	lute H	larid				······································			
5025 S. 33rd Street Phoenix Arizona 85040.2816 Phone: 602.276.6139 1.800.742.2697 RAV. 602.076.4559	Procedure: tweased apa	rt using for	ceps. Procedu	re: dissolu	tion of	matrix	using d	lute HO	Cl acid.							
	Procedure: tweased apa	rt using for	ceps. Procedu	re: dissolu	tion of	matrix	using d	lute HO	Cl acid.							

Phoenix, Arizona 85040-2816

Phone: 602-276-6139 1-800-743-2687 FAX: 602-276-4558

Sam	Analysis Details	Jo	b Nun	nber:	2	01609	9831	14	-2016-	2027			
Hom No	llyzed By MCJ 9/28/2016 An? ogeneous Yes # Layers 1 n-Fibrous Components (in approx. decre	<b></b> -	paren P	it Smp Ios Lay	Туре	ISI	ed: 9/2	27/2016 <b># Su</b>	b-Samp	Fibrous <b>les</b> 3	Conditio Mat	on:accep	table
	Layers						F	ercents	of Each I	iber			
#	Layer Type % Color	Friability		Fib 1		Fib 2	1	Fib 3		b4	Fib 5	F	ib 6
1	duct tape 100 off-white	3	6	0-70%	2	0-30%		-		-	-		-
	Total % 100	Overail %	6	0-70%	2	0-30%		-	I	-	-	1	-
	Fiber I	fentification:	chryso	tile asbest	os celulo:	se fiber			1			1	
	Fibers								R	efractive I	ndex Deter	mination	s
			Mrph	Iso	Pleo	Bì	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1 2	chrysotile asbestos cellulose fiber	w	A F	N N	N N	L H	+	PU	1.550	db/ly	sb/o	1.561	1.553
3							<del></del>	U					
4				-									
5	NAME AND A DESCRIPTION OF												
								]	-				
	e Analytical Note edure: tweased apart using forceps,				·								1
Hom	alyzed By MC3 9/28/2016 An? ogeneous Yes # Layers 1 n-Fibrous Components (in approx. decre Layers		pparer F	nt Smp Pos Lay	Туре	TSI			ıb-Samı			on:acce	otable
L			ļ					Percents	of Each	Fiber			
#	Layer Type % Color	Friability		Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5	F	ib 6
1	duct tape 100 off-white	3		0-60%		80-40%		-		-	-		-
	Total % 100	Overall %	6 5	60-60%	:	30-40%		-		<u>-</u> [	-		-
	Fiber	dentification:	chryse	tile asbes	tos ceiuic	se liber	·		~~~	1		1	
									R	efractive 1	ndex Dete	minatio	<u></u>
	Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per		RI Per
1 2	chrysotile asbestos cellulose fiber	w	A F	N N	N	L	+	P U	1.550	db/ly	sb/o	1,561	1.553
3	Centrose inter		F.		. 11	н	+	U				Į	
4												1	
5	···· ··· ··· ···· ··· ··· ··· ··· ···												
				<b>.</b> .		<u> </u>			L	1	1		1
	edure: tweased apart using forceps.												
1,100	courter theosed upbit doing forceps.												
	nple3C La alyzed By MCJ 9/28/2016 An? nogeneous Yes # Layers n-Fibrous Components (in approx. decre	L	ppare	nt Smp Pos La	Туре	TSI	ed: 9/	27/2016 <b># S</b> i	ub-Sam	Fibrou: ples 3		ion: acce	ptable
An Hon			[ <sup>••••••</sup>					Percente	of Each	Fibar			
An Hon	Layers							rarcanc			Fib F		
An Hon No		Friahilith	,	Fib 1	1	Fib 2		Eib 3					
An Hon No	Layer Type % Color	Friability		Fib 1		Fib 2		Fib 3	E	ib 4	Fib 5		Fib 6
An Hon No	Layer Type % Color duct tape 100 off-white	3	]	70-80%		2-5%		Fib 3		-	-		<u> </u>
An Hon No	Layer Type     %     Color       duct tape     100     off-white       Total %     100	3 Overail 9	\ \{\	70-80% 70-80%		2-5% 2-5%							- 1
An Hon No	Layer Type     %     Color       duct tape     100     off-white       Total %     100	3	\ \{\	70-80%	ilos celui	2-5% 2-5%				-			-
An Hon No	Layer Type     %     Color       duct tape     100     off-white       Total %     100	3 Overail 9 Identification:	/o	70-80% 70-80% otře asbes		2-5% 2-5% cse fiber		-		-	- - Index Dete		
An Hon No	Layer Type % Color duct tape 100 off-white Total % 100 Fiber	3 Overail 9	\ \{\	70-80% 70-80%	itos celui Pieo	2-5% 2-5%	Elg +			-   Col Par	- Index Dete Col Per	minatio RI Par	- - ns RI Per
An Hon No #	Layer Type % Color duct tape 100 off-white Total % 100 Fiber	3 Overati 9 Identification: Color	/o chrys Mrph	70-80% 70-80% otile asbes Iso	Pleo	2-5% 2-5% xse fiber Bi	1	- - Ext		-	- - Index Dete	minatio RI Par	
An Hon No # 1 1 2 3	Layer Type     %     Color       duct tape     100     off-white       Total %     100     Fiber       Fibers     Color       chrysotile asbestos     Color	3 Overail 9 Identification: Color W	/o chrys Mrph A	70-80% 70-80% otile asbes Iso N	Pleo N	2-5% 2-5% xse fiber Bi L	+	- - Ext P		-	- Index Dete Col Per	minatio RI Par	- - ns RI Per
An Hon No #	Layer Type     %     Color       duct tape     100     off-white       Total %     100     Fiber       Fibers     Color       chrysotile asbestos     Color	3 Overail 9 Identification: Color W	/o chrys Mrph A	70-80% 70-80% otile asbes Iso N	Pleo N	2-5% 2-5% xse fiber Bi L	+	- - Ext P		-	- Index Dete Col Per	minatio RI Par	- - ns RI Per
An Hon No # 1 1 2 3 4	Layer Type     %     Color       duct tape     100     off-white       Total %     100     Fiber       Fibers     Color       chrysotile asbestos     Color	3 Overail 9 Identification: Color W	/o chrys Mrph A	70-80% 70-80% otile asbes Iso N	Pleo N	2-5% 2-5% xse fiber Bi L	+	- - Ext P		-	- Index Dete Col Per	minatio RI Par	- - ns RI Per
An Hon # 1 2 3 4 5 6	Layer Type     %     Color       duct tape     100     off-white       Total %     100     Fiber       Fibers     Color       chrysotile asbestos     Color	3 Overail 9 Identification: Color W	/o chrys Mrph A	70-80% 70-80% otile asbes Iso N	Pleo N	2-5% 2-5% xse fiber Bi L	+	- - Ext P		-	- Index Dete Col Per	minatio RI Par	- - ns RI Per
An Hon 8 4 1 2 3 4 5 6 Samp	Layer Type     %     Color       duct tape     100     off-white       Total %     100       Fibers	3 Overail 9 Identification: Color W	/o chrys Mrph A	70-80% 70-80% otile asbes Iso N	Pleo N	2-5% 2-5% xse fiber Bi L	+	- - Ext P		-	- Index Dete Col Per	minatio RI Par	- - ns RI Per

PLM A	nalysis Details			Jo	b Nu	mber:	:	20160	9831	1-	4-2016-	2027			
Samp				Number	2016-	09831-	10	Sample	ed: 9/3	27/2016			Conditi	on:acce	otable
	• • •	/2016	An? ()	K A	ppare	nt Smp	Туре	TSI				Fibrous	Mat		
	geneous No		# Layers 2			Pos Lay				# Sı	b-Samp	les 5			
Non	-Fibrous Components	s (in app	prox. decrea	sing orde	r): p	owder, j	powder	,			•				
	ayers					-									
					i					Percents	of Each E	iber			
#	Layer Type	%	Color	Friability	L.	Fib 1		Fib 2		Fib 3	Fi	b 4	Fib 5	F	ib 6
1	insulation wrap	20	off-white	2		40-50%		n.d.	Τ	-		-	-	1	-
2	Insulation mud	80	gray	3		n.d.	:	10-20%		-		-	-		-
	Total %	100		Overail %	6	5-10%		10-20%		*		-	_		-
			Fiber Id	entification:	celu	ose fiber	chrys	otile asbes	tos			[		-	
	and the second										R	efractive I	ndex Dete	minatio	15
	Fibers			Color	Mrph	Iso	Pleo	Bi	Etg	Ext	Oil	Col Par	Col Per		RI Per
1	cellulose			W	F	N	N	н	+	U					
2	chrysotile a	sbestos		W	A	N	N	L.	+	Р	1.550	db/iy	sb/o	1,561	1.553
3										ļ					
5								ļ							
6								ļ							
						1							<u>I</u>		
	Analytical Note														
Proce	dure: tweased apart us	ing torce	ps. Procedure		on or	polymei	r matrix	using :	solvent						
Sam	ple 4B		Lah	Number	2016	.00831.	11	Samul	odi 0/	27/2016			Candibi		
		8/2016	An? (			ent Smr		-	eu. <i>9</i> /	27/2010	,	<b>F</b> :1		ion: acce	ptable
	geneous No	•			ppare	-						Fibrou	s mat		
	•		# Layers 2			Pos La				# S	ub-Samp	les 5			
	-Fibrous Component	s (in ap	prox. decrea	asing ord	er): (	owaer,	powder	,							
	_ayers									Percent	of Each	Fiber			
#	Layer Type	%	Color	Friability		Fib 1		Fib 2		Fib 3	F	ib4	Fib 5		Fib 6
1	insulation wrap	20	off-white	2		40-50%	1	n.d.		-		- 1	-	[	-
2	insulation mud	80	gray	3		n.d.		10-20%		-		-	-	·	-
	Total %	100	]	Overall 4	%	5-10%		10-20%	]	-	1	-	+	1	+
			Fiber Id	entification:	cela	lose fiber	chrys	otile asbe:	stos						
<b>-</b>											R	efractive	Index Dete	minatio	ne
	Fibers			Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per		RI Per
1	cellulose	fiber		W	F	N	N	н	+	U					
2	chrysotile a	sbestos		w	A	N	N	L	+	P	1.550	db/ly	sb/o	1.561	1.553
3										T		1	1	1	1
4														1	1
5				1			}								
6					<u> </u>			]	]						
	e Analytical Note														
Proce	dure: tweased apart us	ing force	eps. Procedur	e: dissolut	ion of	polyme	r matri	x using	solven	t.					

PLM A	nalysis Details			Jo	b Nui	mber:	:	20160	9831	14	-2016-	2027			
Homo			<b>An?</b> 0 # Layers 4		pparei I	nt Smp Pos Lay	Type er? Ye:	TSI s	ed: 9/2	27/2016 <b># Su</b>	b-Samp	Fibrou <b>les</b> 10	Conditie 5 Mat	ontaccep	otable
L	ayers				[					Percents	of Each I	Fiber			
#	Layer Type	%	Color	Friability		Fib 1		Fib 2	Γ	Fib 3	, Fi	b4	Fib 5	F	ib 6
1	paint	1	off-white	1	]	n.d.		n.d.		-	1	-	-		- ]
2	texture/joint compound	5	white	3	<b>↓↓−−−</b>	n.d.		n.d.		-		-	-		-
3	insulation wrap Insulation mud	19	olf-white	2		10-50%		n.d.		-		-	-		]
L	har a second sec	75	gray	3		n.d.	1	10-20%		-		-	-		-
	Total %	100	J	Overall %	۵ [	5-10%		10-20%		-		-	-		-
			Fiber Ide	entification:	celuio	se fiber	chrys	otile asbes	ios						
	Fibers			T									Index Deter		
	celluiose i	îihor		Color W	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2	chrysotile as			W	F A	N N	N N	HL	<del>+</del>	U P	1.550	db/ly	sb/o	1.561	1.553
3						, , , , , , , , , , , , , , , , , , ,			т	<b>!</b>	1.550	GU/IY	50/0	1.501	1.553
4						1									
5															
6						I								L	
	Analytical Note														
Procee	dure: tweased apart usi	ng rorce	ps. Procedure		on of I	polymer	matrix	using s	olvent	•					
Samp	se 5A		Lab	Number	2016-	09831-	13	Sample	ed: 9/	27/2016			Conditi	on:acce	otable
Anal	lyzed By MCJ 9/28	/2016	An? (	ж а	ppare	nt Smr		Cemen				Non-fi	brous Solid		padore
Homo	geneous Yes		# Layers i		••	Pos La	ver? No	<b>)</b>		# St	ib-Sam				
Non	-Fibrous Components	s (in ap	prox. decrea	asing orde											
<b></b>	ayers					-									
#	Layer Type	%	0.1				Ţ		1		of Each				
1	T		Color	Friability		Fib 1	<u> </u>	Fib 2	1	Fib 3		ib 4	Fib 5		Fib 6
1	) concrete	100	gray	1		n.d.		-		*		<u> </u>	-		-
	Total %	100	]	Overali 9	/o	n.d.		-		-		-	-		-
			Fiber Id	entilication:	none				Ι						
·	Fibers						_				R	efractive	Index Dete	rminatio	ns
1				Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none										ļ		_		]
3															
4									Į	1		<u>∤</u>			
5									1					1	1
6					Į		1	l	[			1	1	1	
Sample	Analytical Note							-							
Proce	dure: tweased apart us	ing force	eps. Procedur	e: dissolut	ion of	matrix	using d	ilute HC	l acid.						

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PLM Analysis Details			Jo	bΝ	umber:	ی •	20160	9831	14	-2016-	2027			
Sample 58 Analyzed By MCJ 9/28 Homogeneous No Non-Fibrous Components		An? ( # Layers 2		ppar	ent Smp Pos Lay	Type /er? No	Cement		27/2016 <b># Su</b>	b-Samp		Condition Condit	ontacce	ptable
Layers	, (m ab	pion decies	asing orde	≈1): □	powder, i	<b>ОСК</b> ,								
# Layer Type	nı.	Color	<b>H</b> . <b>1 1 1</b>					I	Percents		······································			
1 paint	% 2	Color	Friability		Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5		⁼ib 6
2 concrete	98	gray gray	1	┥┣╴	n.d. n.d.	-	-		-		-			-
Total %	100	]	Overatl %	/6	n.d.		· •		-		- 1	-	1	_
		- Fiber Id	entification:	nor	YA			1		•	1		1	
				(10)						R	efractive 1	Index Deter	minatio	ne
Fibers			Color	Mrp	h Iso	Pleo	Bi	Ełg	Ext	Oil	Col Par	Col Per	RI Par	
1 none 2														
3					-	ļ								
<u>4</u> 5											[			
6						ļ								
Sample Analytical Note			J		I	L	<b>.</b>		.I}ł	t	1	1	L	
Procedure: tweased apart us	ing force	eps. Procedur	e: dissolut	ion o	f matrix u	ising di	lute HC	i acid.						
Sample 5C		1	Number	201		45			27/2016			Conditi		
Homogeneous No Non-Fibrous Component	8/2016 <b>s (in a</b> p	An? ( # Layers 2 prox. decre			rent Smp Pos La powder,	yer? No	Cemen			ıb-Samı		brous Solid	<b></b>	public
Layers									Percents	of Each	Fiber			
# Layer Type	%	Color	Friability	1	Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5		Fib 6
1 paint	2	gray	1		n.d.		-		-		-	-	<u> </u>	-
2 concrete	98	gray	1		n.d.		-		-		<u>-</u>	-		-
Total %	100	J	Overall o	%	n.d.		-		-		-	-		-
		Fiber Ic	fentilication:	no	ne									
Fibers			Color	Mrp	h Iso	Pleo	Bi	Eig	Ext	Oil	Col Par	Index Deter		
<b>1</b> non	3					1.100		<u> </u>		<u> </u>		Coi Per	KI Par	RI Per
2						-	ļ	ļ						1
4								1						1
5														
6				<u>]</u>						L		1	1	1
Sample Analytical Note Procedure: tweased apart us	ing force	one Drocedur	er dissolut	lon	fostriv	using d	iluto UC	'l noid						
Theedarc: excused apart as	ing iore	cps. riocedui	e. 01550100		n maunx	using a	nute nu	i aciu.						
Sample 6A Analyzed By MCJ 9/2 Homogeneous Yes Non-Fibrous Component	9/2016 :s (in ai	An? # Layers i		\ppa	rent Sm Pos La	p Type yer? N	Cemen			ub-Sam		Conditi brous Solid	ion:acce I	eptable
Layers	-		_	_ _					Percente	of Fach	Fiher			
# Layer Type	%	Color	Friabilit	уГ	Fib 1	1	Fib 2	1	Fib 3		Fib 4	Fib 5		Fib 6
1 concrete	100	gray	1	יור	n.d.			1	-	1	-		 	-
Total %	100′	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Overall	%	n.d.		-		-		-	-		
			dentification:		xne	 							I	
				100		I					Refractive	Index Dete	minatio	) [] S
Fibers			Color	Mr	oh Iso	Pleo	Bì	Elg	Ext	01	Col Par			RI Per
1 non 2	e									-				
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Sample Analytical Note			1	<u> </u>		1		1		I L	1		<u> </u>	<u> </u>
Procedure: tweased apart us	sing for	eps. Procedu	re: dissolu	tion	of matrix	using	lilute Hr	1 acid						
		u				aanig (								

Phone: 602-276-6139

Sample 6B Lab Numb		กมา	nber:	2	0160	9831	14	-2016-	2027			
Analyzed By MCJ 9/29/2016 An? OK Homogeneous Yes # Layers 1 Non-Fibrous Components (in approx. decreasing of	App	oaren P	it Smp 1 Pos Laye	Type ( ar? No			7/2016 <b># Sui</b>	o-Samp		Conditio rous Solid	on:accep	table
Layers						P	ercents o	of Each I	iber			)
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1 concrete 100 gray 1	L )	[	n.d.		-		-	Ι	- 1	-		-
Total % 100 Over	all %		n.d.		-		-		-	-		-
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Fibers							F	R	efractive I	ndex Deter	mination	s
	or M	irph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	<b>RI</b> Par	RI Per
2 none												
3												
5												
6										ļ		
Sample Analytical Note	I		I		I		J I.			1	<b>I</b>	
Procedure: tweased apart using forceps. Procedure: diss	olution	n of n	natrix us	ing dil	ute HCI	acid.						
Sample         6C         Lab Numl           Analyzed By MCJ         9/29/2016         An? OK           Homogeneous Yes         # Layers 1           Non-Fibrous Components (in approx. decreasing of Layers	Apj	parei I	nt Smp ' Pos Laye	Type er? No	Cement	itious		b-Samı	oles 3	Conditi prous Solid		otable
		<u> </u>					Percents	of Each	Fiber			
	bility		Fib 1		Fib 2		Fib 3	F	ib4	Fib 5	F	ibб
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Total % 100 Over	rall %		n.d.				-		÷	-		+
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Fibers	<u> </u>							R	efractive I	Index Dete	minatio	15
1 none Cote	or N	Irph	Iso	Pleo	Bi	Elg	Ext	Oll	Col Par	Col Per	RI Par	RI Per
2			+							+		
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4           5           6												
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5 6	solutio	n of r	natrix us	sing di	ute HC	acid.						
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing	ber 2 Ap	016-0 pare	09831- 1 nt Smp Pos Lay	9 Type er? No	<b>Sampl</b> Cemen	ed: 9/	27/2016 <b># Su</b>	b-Sam		Conditi brous Solid	ion; acce	ptable
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers	iber 2 Ap order	016-0 pare	09831- 1 nt Smp Pos Lay owder, re	9 Type er? No	Sampl Cemen	ed: 9/	# Su Percents		ples 3			ptable
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers         #       Layer Type         %       Color	ber 2 Ap order	016-0 pare	09831- 1 nt Smp Pos Lay owder, re Fib 1	9 Type er? No	<b>Sampl</b> Cemen	ed: 9/	# Su	of Each	ples 3		l 	ptable
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Anary OK       Homogeneous Yes         # Layers       2         #       Layer Type         %       Color         1       sealant         40       white	ber 2 Ap order bility	016-0 pare	09831- 1 nt Smp Pos Lay owder, re Fib 1 n.d.	9 Type er? No	Sampi Cemen Fib 2	ed: 9/	# Su Percents Fib 3	of Each	ples 3 Fiber ib 4	brous Solid	l 	
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Anaryzed By MCJ       9/29/2016	iber 2 Ap order bility 1	016-( pare	09831- 1 nt Smp Pos Lay owder, re Fib 1 n.d. n.d.	9 Type er? No	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3	of Each	Fiber	Fib 5	l 	
5       6         Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Anary CK       Hayers 2         Non-Fibrous Components (in approx. decreasing         Layers	ber 2 Ap order bility 1 1 rall %	016-( pare ): po	09831- 1 nt Smp Pos Lay owder, re Fib 1 n.d.	9 Type er? No	Sampi Cemen Fib 2	ed: 9/	# Su Percents Fib 3	of Each	ples 3 Fiber ib 4	brous Solid	l 	
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Anaryzed By MCJ       9/29/2016	ber 2 Ap order bility 1 1 rall %	016-( pare	09831- 1 nt Smp Pos Lay owder, re Fib 1 n.d. n.d.	9 Type er? No	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3	of Each F	Fiber       ib 4       -       -       -	Fib 5 - -		Fib 6
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Anaryzed By MCJ       9/29/2016         Layers       1         Layers       1         sealant       40         white       100         Over       Fiber Identificat          Fibers       100	iber 2 Ap order bility 1 rall % ition:	016-4 pare	09831- 1 nt Smp Pos Lay owder, n Fib 1 n.d. n.d. n.d.	19 Type er? No ock,	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3 - -	of Each F	Fiber ib 4	Fib 5 - - Index Dete		Fib 6
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers         #       Layer Type         %       Color         1       sealant         40       white         2       concrete         60       gray         Total %       100         Over         Fibers       Color         1       none	iber 2 Ap order bility 1 rall % ition:	016-( pare ): po	09831- 1 nt Smp Pos Lay owder, re Fib 1 n.d. n.d.	9 Type er? No	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3	of Each F	Fiber       ib 4       -       -       -	Fib 5 - -		Fib 6
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         An? OK         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers         #       Layer Type         %       Color         Fibars       Color         1       sealant         40       white         2       concrete         60       gray         Fibers       Color         1       none         2       none	iber 2 Ap order bility 1 rall % ition:	016-4 pare	09831- 1 nt Smp Pos Lay owder, n Fib 1 n.d. n.d. n.d.	19 Type er? No ock,	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3 - -	of Each F	Fiber ib 4	Fib 5 - - Index Dete		Fib 6
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers       #         #       Layer Type         %       Color         1       sealant         40       white         2       concrete         60       gray         Total %       100         Over         Fibers       Color         1       none         2       3	iber 2 Ap order bility 1 rall % ition:	016-4 pare	09831- 1 nt Smp Pos Lay owder, n Fib 1 n.d. n.d. n.d.	19 Type er? No ock,	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3 - -	of Each F	Fiber ib 4	Fib 5 - - Index Dete		Fib 6
5       6         6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A         Lab Num         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         Analyzed By MCJ       9/29/2016         An? OK         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers         #       Layer Type         %       Color         Fibars       Color         1       sealant         40       white         2       concrete         60       gray         Fibers       Color         1       none         2       none	iber 2 Ap order bility 1 rall % ition:	016-4 pare	09831- 1 nt Smp Pos Lay owder, n Fib 1 n.d. n.d. n.d.	19 Type er? No ock,	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3 - -	of Each F	Fiber ib 4	Fib 5 - - Index Dete		Fib 6
5       6         Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A       Lab Num         Analyzed By MCJ       9/29/2016       An? OK         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers         #       Layer Type         %       Color         1       sealant         2       concrete         60       gray         Total %       100         Quest         Fibers       Color         1       none         2       3         4       0	iber 2 Ap order bility 1 rall % ition:	016-4 pare	09831- 1 nt Smp Pos Lay owder, n Fib 1 n.d. n.d. n.d.	19 Type er? No ock,	Sampl Cemen Fib 2	ed: 9/	# Su Percents Fib 3 - -	of Each F	Fiber ib 4	Fib 5 - - Index Dete		Fib 6
5       6         Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: diss         Sample       7A       Lab Num         Analyzed By MCJ       9/29/2016       An? OK         Homogeneous Yes       # Layers 2         Non-Fibrous Components (in approx. decreasing         Layers         #       Layer Type         %       Color         1       sealant         40       white         2       concrete       60         100       Over         Fiber Identifica         Fibers       Color         3       4         5	ber 2 Ap order bility 1 rall % tion:	016-4 pare pare none Mrph	D9831- 1 nt Smp Pos Lay owder, ro Fib 1 n.d. n.d. n.d. Iso	Pleo	Sampl Cemen Fib 2	ed: 9/ titious	# Su Percents Fib 3 - -	of Each F	Fiber ib 4	Fib 5 - - Index Dete		Fib 6

Sample /B         Lab Number 2016 09831-20         Sampled: 9/27/2016         Condition:scceptable           Analyrad By MCJ         9/28/2016         An7 0K         Apparent Somy Type Concentrious         # Sub-Samples*           Non-Fibrous Components (in approx. decreasing order):         powder, rock,         # Sub-Samples*         # Sub-Samples*           1         selent         0         other         i.e.         -         -           2         Layer Type         %         Color         Prishitty         Pis 1         Fits 2         Fits 3         Fits 4         Fits 5         Fits 4           2         Layer Type         %         Color         Prishitty         Fits 4         Fits 4 <t< th=""><th>PLM A</th><th>nalysis Details</th><th></th><th></th><th>Jol</th><th>o Nun</th><th>nber:</th><th>2</th><th>0160</th><th>9831</th><th>14</th><th>-2016-</th><th>2027</th><th></th><th></th><th></th></t<>	PLM A	nalysis Details			Jol	o Nun	nber:	2	0160	9831	14	-2016-	2027			
Percents of Each Fiber           #         Layer Type         %         Color         Priod 1         Fib 2         Fib 2         Fib 3         Fib 4         Fib 5         Fib 5           2         concette         60         gray         1         n.d.         -	Analy Homog	zed By MCJ 9/29/ Jeneous No	1	<b>An?</b> 0 # <b>Layers</b> 2	к Ар	iparen P	t Smp 1 os Laye	Type ( er? No	-			o-Sam;			n:accep	table
#         Layer Type         %         Color         Fibality         PB 1         Fib 2         Fib 3         Fib 4         Pb 5         PB 6           2         concrete         60         gray         1         nd.         -	<b></b>	· · · · · · · · · · · · · · · · · · ·	(		sing orac	1										1
1         satisfield         40         bits         1         0.d.         100	#	Laver Type	9/2	Color	Frishility		tih f	1		F		1				<u> </u>
2         concrete         60         gray         1         n.d. </td <td></td> <td></td> <td></td> <td></td> <td>- </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> F</td> <td>104</td> <td></td> <td></td> <td></td>					- 							F	104			
Fiber Merilitation:         Image: Section of the					-f	}			· .				-			-
Fibers         Coler         Mrph         Iso         Piles         Di         Eig         Extractive Index Determination           1         none         I         I         I         Index Determination           3         Index Determination         Index Determination         Index Determination           4         Determination         Index Determination         Index Determination           5         Index Determination         Index Determination         Index Determination           6         Orgen         1         Index Determination         Index Determination           1		Total %	100		Overall %	•	n.d.		-		-	1	-	-	1	
Fibers         Color         Mrph         Jac         Pies         Di         Eig         E				Fiber Ide	entification:	none		T		-i		1			1	
Totals         Color         Mrph         Iso         Pilo         Bit         Etg         Oil         Col Par         Oil Par         Rt Par <t< td=""><td><u> </u></td><td></td><td></td><td></td><td></td><td>·</td><td></td><td></td><td></td><td></td><td>1</td><td>R</td><td>efractive I</td><td>ndex Deten</td><td>mination</td><td>is 1</td></t<>	<u> </u>					·					1	R	efractive I	ndex Deten	mination	is 1
Image: second					Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
4       5       1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<>		поле														
S       Image: Stample Analytical Note         Sample Analytical Note       Procedure: twessed spart using forceps. Procedure: dissolution of matrix using dilute HCI acid.         Sample Analyzed By MCJ 9/29/2016 An7 OK Apparent Smp Type Cementitious Non-fibrous Solid       Non-fibrous Solid         Homogeneous No       # Layers 2       Pos Layer? No       # Sub-Samples 4         Non-Fibrous Components (in approx. decreasing order): powder, rock,       Percents of Each Fiber       -         # Layer Type       % Color       Priability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       sealant       40       white 1       n.d.       -																
G       Image       Ima																
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.           Sample 1/C         Lab Number 2016-09831-21         Sampled: 9/27/2016         Condition: acceptable           Non-Fibrous Components (in approx. decreasing order): powder, rock,         Teresta of Each Fiber           # Layer Type         %         Color         Price of Each Fiber           # Layer Type         %         Color         Price of Each Fiber           # Layer Type         %         Color         Price of Each Fiber           # Total %         Color         Price of Each Fiber           # Total %         Color         Price of Each Fiber           Fiber         Effective Index Determinations           Fiber         Color         Mriph Iso Pleo Bil         Eig Ext         Oil Col Per RI Par RI Par           Fiber         Color         Mriph Iso Pleo Bil         Eig Ext         Oil Col Per RI Par RI Par           Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.																
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.           Sample 1/C         Lab Number 2016-09831-21         Sampled: 9/27/2016         Condition: acceptable           Non-Fibrous Components (in approx. decreasing order): powder, rock,         Teresta of Each Fiber           # Layer Type         %         Color         Price of Each Fiber           # Layer Type         %         Color         Price of Each Fiber           # Layer Type         %         Color         Price of Each Fiber           # Total %         Color         Price of Each Fiber           # Total %         Color         Price of Each Fiber           Fiber         Effective Index Determinations           Fiber         Color         Mriph Iso Pleo Bil         Eig Ext         Oil Col Per RI Par RI Par           Fiber         Color         Mriph Iso Pleo Bil         Eig Ext         Oil Col Per RI Par RI Par           Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.	Sample	Anaiytical Note									السعيد ا		1	II	I	L
Analyzed By MCJ         9/29/2016         An? OK         Apparent Smp Type Comentitious         Non-fibrous Solid           Homogeneous No         # Layers 2         Pos Layer? No         # Sub-Samples 4           Non-Fibrous Components (In approx. decreasing order):         powder, rock,           Layers			ng force	ps. Procedure	e: dissoluti	on of n	natrix us	ing dil	ute HC	acid.						
Analyzed By MCJ         9/29/2016         An? OK         Apparent Smp Type Commentitious         Non-fibrous Solid           Homogeneous No         # Layers 2         Pos Layer? No         # Sub-Samples 4           Non-Fibrous Components (In approx. decreasing order):         powder, rck,           Layers	Samp			l ah	Number	2016-0	0831- 7	1	Samul		27/2016			Conditi		otable
Homogeneous No         # Layers 2         Pos Layer? No         # Sub-Samples4           Non-Fibrous Components (in approx. decreasing order):         powder, rock,         Fibs 6         Fibs 7         Fib 6         Fibs 7         Fib 6         Fibs 7         Fib 6         Fibs 7         Fib 6         Fib 7         Fib			/2016						-		.772010		Non-fil		macce	praute
Layer Symple         Vision         Color         Priability         Pib 1         Pib 2         Pib 3         Pib 4         Pib 5         Pib 6           1         sealant         40         white         1         n.d.         - <td< td=""><td></td><td>• • •</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td># Su</td><td>b-Sam</td><td></td><td><i>x</i>045 0044</td><td></td><td></td></td<>		• • •									# Su	b-Sam		<i>x</i> 045 0044		
Percents of Each Fiber           #         Layer Type         %         Color         Priability         Fib 2         Fib 3         Fib 4         Fib 5         Fib 6           1         sealant         40         white         1         n.d.         -	Non	Fibrous Components	s (in ap	prox. decrea	asing orde	r): po	wder, ro	ock,					•			
#         Layer Type         %         Color         Priability         Fib 1         Fib 2         Fib 3         Fib 4         Fib 5         Fib 6           1         sealant         40         white         1         n.d.         -	Ĺ	ayers				[					Percents	of Each	Fiber			
1         seelant         40         white         1         n.d.         -	#	Layer Type	%	Color	Friability		Fib 1	]	Fib 2	1				Fib 5	F	ib 6
Total %         100         Overall %         n.d.         -	1	sealant	40	white	1	1	n.d.		~	1	-	1	- 1	-	T	-
Fiber identification:       more         Refractive Index Determinations         Oli       Color       Mrph       Iso       Pice       Bi       Eig       Ext       Oil       Col Par       R Par       R I Par       R I Par         2       0       Color       Mrph       Iso       Pice       Bi       Eig       Ext       Oil       Col Par       Col Par       R Par       R I Par       R I Par         3       0       Color       Mrph       Iso       Pice       Bi       Eig       Ext       Oil       Col Par       Col Par       R Par       R I Par       R I Par         4       0 <td>2</td> <td>concrete</td> <td>60</td> <td>gray</td> <td>1</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>÷-</td> <td></td> <td>-</td> <td>-</td> <td></td> <td>-</td>	2	concrete	60	gray	1				-		÷-		-	-		-
Fibers         Color         Mrph         Iso         Pleo         Bi         Eig         Ext         Oil         Col Per         Rt Par         Ri Par         Ri Par           2         none         I         I         Image: Stress of Stress		Total %	100	]	Overall %	6 🗌	n.d.	.	-		-		- 1	-		~
Pibers         Color         Mrph         Iso         Ploo         Bi         Eig         Est         Oil         Col Par         RI				Fiber Id	entification:	none						Τ				
I         none         Iso         Priph         Is		There											Refractive	Index Deter	minatio	ns
2       3       -					Color	Mrph	Iso	Pleo	Bi	Elg	Ext	011	Coi Par	Col Per	RI Par	RI Per
4	2	Tone														
5       6       1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<>																
6       Sample Analytical Note         Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.         Sample BA       Lab Number 2016-09831- 22       Sampled: 9/27/2016       Condition: acceptable         Analyzed By MCJ       9/29/2016       An? OK       Apparent Smp Type Wall System       Non-fibrous Solid         Homogeneous Yes       # Layers 1       Pos Layer? No       # Sub-Samples 3         Non-Fibrous Components (in approx. decreasing order):       powder, ,															<u> </u>	
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCI acid.         Sample       BA       Condition: acceptable         Analyzed By MCJ       9/29/2016       An? OK       Apparent Smp Type Wall System       Non-fibrous Solid         Monogeneous Yes       # Layers 1       Pos Layer? No       # Sub-Samples 3         Non-Fibrous Components (in approx. decreasing order): powder, ,         Layers 1       Pos Layer? No       # Sub-Samples 3         Non-Fibrous Components (in approx. decreasing order): powder, ,         Layers 1       Pos Layer? No       # Sub-Samples 3         Non-Fibrous Components (in approx. decreasing order): powder, ,         Layer Type       %       Color       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       twetre/joint compound       100       Color       Mrph       Iso       Pie 6       Bi< Elg       Ext       Oil       Col Per       RI Per       A <td></td> <td>· [</td> <td>1</td> <td><u> </u></td> <td></td>													· [	1	<u> </u>	
Sample         BA         Lab Number         2016-09831-22         Sampled:         9/27/2016         Condition: acceptable           Analyzed By MCJ         9/29/2016         An? OK         Apparent Smp Type         Wall System         Non-fibrous Solid           Homogeneous Yes         # Layers 1         Pos Layer? No         # Sub-Sample 3         Non-fibrous Solid           Non-Fibrous Components (in approx. decreasing order):         powder, ,           Fib 1         Fib 2         Fib 3         Fib 4         Fib 5         Fib 6           1         texture/joint compound         100         tan         3         n.d.         -         -         -         -           Fibers         Fiber Identification:         none         - <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																
Analyzed By MCJ       9/29/2016       An? OK       Apparent Smp Type       Wall System       Non-fibrous Solid         Homogeneous Yes       # Layers 1       Pos Layer? No       # Sub-Samples 3         Non-Fibrous Components (in approx. decreasing order): powder, ,       Percents of Each Fiber       Fib 5       Fib 6         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       texture/joint compound       100       tan       3       n.d.       -	Proce	ure: tweased apart us	ing force	eps. Procedur	e: dissoluti	on of r	natrix u	sing d	lute HC	l acid.						
Analyzed By MCJ       9/29/2016       An? OK       Apparent Smp Type       Wall System       Non-fibrous Solid         Homogeneous Yes       # Layers 1       Pos Layer? No       # Sub-Samples 3         Non-Fibrous Components (in approx. decreasing order): powder, ,       Percents of Each Fiber       Fib 5       Fib 6         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       texture/joint compound       100       tan       3       n.d.       -	Sam	ale 8A		Lat	Number	2016-	09831- 2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Samp	ed: 9/	27/2016			Conditi	00.9006	ntahle
Homogeneous Yes       # Layers 1       Pos Layer? No       # Sub-Samples 3         Non-Fibrous Components (in approx. decreasing order): powder, ,       powder, ,         Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       texture/joint compound       100       tan       3       n.d.       - </td <td>1</td> <td></td> <td>)/2016</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td> <td></td> <td>27,2010</td> <td></td> <td>Non-fi</td> <td></td> <td></td> <td>puone</td>	1		)/2016						•		27,2010		Non-fi			puone
Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5       Fib 6         1       texture/joint compound       100       tan       3       n.d.       -       <		-				I	Pos Lay	er? No		•	# Sı	ıb-Sam				
#         Layer Type         %         Color         Friability         Fib 1         Fib 2         Fib 3         Fib 4         Fib 5         Fib 6           1         texture/joint compound         100         tan         3         n.d.         -	_		s (in ap	prox. decre	asing orde	er): p	owder, ,									
1       texture/joint compound       100       tan       3       n.d.       -       1       1 <t< td=""><td>L!</td><td>ayers</td><td></td><td></td><td></td><td>[</td><td></td><td></td><td></td><td></td><td>Percents</td><td>of Each</td><td>Fiber</td><td></td><td></td><td></td></t<>	L!	ayers				[					Percents	of Each	Fiber			
Total %       100       Overall %       n.d.       -       1	#	Layer Type	%	Color	Friability	/	Fib 1		Fib 2		Fib 3		Fib 4	Fib 5	1	Fib 6
Fiber Identification:     none     Image: Color Mrph Iso Pleo     Bi     Elg     Ext     Oil     Col Par     Col Par     RI Par     RI Par       1     none     Image: Color Mrph Iso Pleo     Bi     Elg     Ext     Oil     Col Par     Col Par     RI Par     RI Par       2     Image: Color Mrph Iso     Image: Color Mr	1	texture/joint compound	100	tan	3		n.d.		-		-		-	-		
Fibers     Color     Mrph     Iso     Pleo     Bi     Eig     Ext     Oil     Col Par     Col Par     RI Par     RI Par     RI Par       1     none     Image: Strategy of the s		Total %	100	]	Overall 9	/•	n.d.		-		-		-	-		-
Refractive Index Determinations       Fibers     Color     Mrph     Iso     Pleo     Bi     Eig     Ext     Oil     Col Par     Col Par     RI Par     RI Par     RI Par       1     none     -     -     -     -     -     -     -     -       2     -     -     -     -     -     -     -     -     -       3     -     -     -     -     -     -     -     -     -       4     -     -     -     -     -     -     -     -     -       5     -     -     -     -     -     -     -     -     -       6     -     -     -     -     -     -     -     -     -       Sample Analytical Note				Fiber fo	dentification:	none						1				
Loior       Mrpn       150       Pieo       Bi       Etg       Ext       Oil       Col Par       Col Par       RI Par       RI Par       RI Par         1       none		Elhava											Refractive	Index Dete	rminatio	ns
2			_		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
3         4         5         6	The second se	none	<u>.</u>								-				+	
5 6 Sample Analytical Note	3				1										1	
6 Sample Analytical Note															1	
Sample Analytical Note							·		+	+					+	+
	السنىما				A						;	L			J	
	Sample	: Analytical Note														
			ing forc	eps. Procedu	re: dissolut	ion of	matrix u	ising d	ilute HO	Cl acid.						

PLM Analysis Details		Jo	b Nu	nber:	2	20160	9831	14	-2016-	2027			
Non-Fibrous Components (in ap	An? C # Layers 1		ppare: I	nt Smp Pos Lay	Type ver? No			27/2016 <b># Su</b>	b-Samp		Condition rous Solid	on:acce	otable
Layers							1	Percents	of Each	Fiber			
# Layer Type %	Color	Friability		Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5	F	ib 6
1 texture/joint compound 100	tan	3		n.d.		-		-		-	-		- ]
Total % 100		Overail %	6	n.d.		-		-		- [	-		]
	Fiber Id	entification:	none										]
Fibers											ndex Deter		
1 none		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2											<u> </u>		
3 4													
5													
6													
Sample Analytical Note													J
Procedure: tweased apart using force	ps. Procedure	e: dissoluti	ion of r	natrix u	ising di	ute HC	l acid.						
Non-Fibrous Components (in ap	An?( # Layers 1		ppare	nt Smp Pos La	Type yer? No	Wall S		27/2016 <b># Su</b>	b-Samj		<b>Conditi</b> prous Solid		ptable
Layers								Percents	of Each	Fiber			
# Layer Type %	Color	Friability	′ 🗀	Fib 1		Fib 2		Fib 3	F	ib4	Fib 5	1	Fib 6
1 texture/joint compound 100	tan	3		n.d.		-		~		-	-		- ]
Total % 100		Overall •	/0	n.d.		-		+		I			-
	Fiber Id	ientification:	none						1	Ţ			
Fibers		r							R	efractive	Index Dete	minatio	ns
1 none		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Coi Par	Col Per	RI Par	RI Per
2										h			
3												-	
5								ļ	ļ				
6											-		
Sample Analytical Note Procedure: tweased apart using force	os. Procedur	e: dissolut	ion of	matrix	isina di	lute HC	l acid.	· · · · · · · · · · · · · · · · · · ·	L	J	<b></b>	s	) 
Sample 9A Analyzed By MCJ 9/29/2016 Homogeneous Yes Non-Fibrous Components (in ap	An? ( # Layers 1		oppare	nt Smj Pos La	o Type yer? No	Adhesi			ıb-Sam		Conditi brous Solid	ion:acce	ptable
			Ļ					Percents	of Each	Fiber			
# Layer Type %	Color	Friabilit	v [	Fib 1		Fib 2		Fib 3		ib 4	Fib 5		Fib 6
1 gasket 100	red	1		n.d.		-		÷		- 1	-		
Total % 100	]	Overall	% <u> </u>	n.d.		-		-		-	-		-
	Fiberte	dentification:	none		.					I			]
Fibers		Color	Maule	<b>T</b>	<b>n</b> i	E PI	1 =	1			Index Dete		
1 none		CONOF	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2			ļ	1	1								
3 4						<u> </u>	-					1	
5			<u> </u>	+		+				-			
6			1	1		1					1	t	1
Sample Analytical Note									-				
Procedure: tweased apart using force	eps. Procedui	re: dissolu	tion of	matrix	using s	olvent.							
······································													

Fiberquant, Inc.

PLM Ana	lysis Details	5			Jo	b Nu	mber:	:	20160	9831	14	-2016-	2027			
Homoger	neous Yes brous Compor			An? ( # Layers 1		pparei I	nt Smp Pos Lay	Type /er? No	Adhesiv			b-Samı		Conditi prous Solid	on:acce	otable
						ļ					Percents	of Each	Fiber			
#	Layer Type		%	Color	Friability	<u> </u>	Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5	F	ib 6
1	gasket		100	red	1	」 <u> </u>	n.d.		-		-		-	~		-
	Total	<b>%</b> 0	100		Overall %	۰ <u> </u>	n.d.		-		-		-	-		-
				Fiber Id	entification:	none			10				]			
Fibe	ers				Color	Mrph	Iso	Pleo	Bi	Ela	Ext		efractive I Col Par	Index Dete		
1		none			2010)	Physic	130	FIEU		Elg	EXC	011	COLPAR	Col Per	RI Par	RI Per
2 3															1.	
4																
5								1							+	
6							]								1	
	alytical Note		6						-							
Procedur	e: tweased apa	π usi	ng force	os. Procedur	e: dissolut	ion of i	natrix ı	using so	lvent.							
Homoge Non-Fi	ed Bγ MC) meous Yes brous Compo			An? ( # Layers 1		ppare	nt Smp Pos La	) Type yer? No	Adhesi			ıb-Samı		Condit brous Solic	ion:acce i	ptable
Lay	ers										Percents	of Each	Fiber			
#	Layer Type		%	Color	Friability	/	Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5		Fib 6
1	gasket		100	red	1		n,d,		-		-		-	-	1	-
	Total	% ا	100		Overall 🕈	//	n.d.		~			. [	- 1	-		_
				Fiber id	dentification:	none		Γ							1	
Fib	ers				p							F	efractive	Index Dete	minatio	ns
1		none	•		Color	Mrph	Iso	Pleo	Bì	Elg	Ext	Oïl	Col Par	Col Per	RI Par	RI Per
2		none						+								
3 4													1			
5								-				Ì				
6						·					1					
	nalytical Note											L				. <b>I</b>
Procedur	re: tweased apa	art us	ing force	ps. Procedu	e: dissolut	ion of	matrix	using s	olvent.							
Homoge Non-Fi	zed By MC) eneous Yes ibrous Compo	•		An? # Layers 1		Appare	ent Sm Pos La	p Type yer? N	Wall S		/27/2016 # Si	ub-Sam		Condit brous Solid	i <b>on:</b> acce d	ptable
Lay	rers										Percente	of Each	Fiber			
#	Layer Туре		%	Color	Friabilit	y 🗌	Fib 1		Fib 2		Fib 3		Fib 4	Fib 5		Fib 6
1	plaster		100	off-white	2		<=1%		-		-	1	-	-		-
	Tota	1%	100		Overali	%	<=1%		-		-		- ]	-	1	-
				Fiber I	dentification:	celu	lose liber									
Eit						-							Refractive	Index Det	erminatio	ns
1 Fit	bers	Iuless	6he-		Color	Mrph		Pleo	Bi	Elg	Ext	Oil	Col Par			RI Per
2	Ce	lulose	inder		W	F	N	N	н	+	U		-	··		
3		•••			1		1									1
4 5										1		ļ				
5					+	1										
	nalytical Note					<b>I</b>	<b>1</b>	,		.1	1	L			_I	
	ire: tweased ap	art us	ing force	eps. Procedu	re: dissolu	tion of	matrix	usina c	llute H	CI acid						
			·													

PLM A	nalysis Details			Jol	b Nu	mber:	2	20160	9831	14	-2016-	2027			
Homo Non-	yzed By MCJ 9/29 geneous No -Fibrous Components		<b>An?</b> 0 # <b>Layers</b> 3	•	opare: I	nt Smp Pos Lay	Type er? No	Wall Sy		27/2016 <b># Su</b> l	b-Samp		Condition rous Solid	on:accep	otable
LL	ayers				[					Percents	of Each	Fiber			
#	Layer Type	%	Color	Friability		Fib 1		Fib 2	Ι	Fib 3	Fib 4		Fib 5	F	ib 6
1	paint	5	off-white	1	]	n.d.		-	1		T	- [	-	1	- 1
2	plaster (top coat)	5	white	2		n.d.		-		-		-	-		-
	plaster (scratch coat)	90	tan	2		<=1%		-		-	-	<u> </u>	-		-
	Total % 100			Overall %	<u>ا</u>	<=1%		-				-	-		- ]
			Fiber Ide	entification:	ceituk	se fiber					1				]
	Fibers	r									efractive I	ndex Deter	mination	IS	
	cellulose	CL			Mrph	Iso	Pieo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2	Cenuiose	nuer		W	F	N	N	н	+	U					
3						1									
4															
5															
				l		I									
	Analytical Note dure: tweased apart us	ng force	eps. Procedure	e: dissoluti	on of J	paint ma	atrix us	ing solv	vent. P	rocedure	: dissolu	ution of pl	aster matri	x using a	acid.
Samp	ple 10C		Lab	Number	2016-	09831-	30	Sampl	ed: 9/	27/2016			Conditi	ontacce	ntable
Ana	lyzed By MCJ 9/29	/2016	An?			nt Smp						Non-fit	prous Solid		puble
	geneous No		# Layers 3			Pos Lay	er? No	)		# Su	b-Sam				
Non	-Fibrous Component	s (in ap	prox. decrea	asing orde	<b>r):</b> p	owder, r	rock, bi	nder							
L	.ayers				<u> </u>					Percents	of Fach	Fiber	<b></b>		
#	Layer Type	%	Color	Friability		Fib 1	i r	Fib 2		Fib 3		ib 4	Fib 5		ib 6
1	paint	1	off-white	1	ר ר	n.d.		-	I			1			
2	plaster (top coat)	1	white	2		n.d.		-		-		-	-		-
3	plaster (scratch coat)	98	tan	2		<=1%		•		-	-	-	-		-
	Total %	100	]	Overall %	6	<=1%	Γ	-	ļ	-	1	-	-	1	- 1
			Fiber Id	entification:	ceiul	ose fiber	- in the second		1		· _			1	
p					00107								Index Dete		
	Fibers			Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	
1	cellulose	fiber		W	F	N	N	н	+	U					
2												ļ			
4										ļ	ļ				
5										+					╆
6								1	1					}	
	Analytical Note														
Proce	dure: tweased apart us	ing force	eps. Procedur	e: dissoluti	on of	paint m	atrix us	ing sol	vent. I	rocedure	e: dissol	ution of p	aster matr	ix usina	acid.

Fiberquant, Inc.

PLM Analysis Details	Jol	b Nur	nber:	2	20160	9831	14	1-2016	-2027			
Sample         11A         Lat           Analyzed By MCJ         9/29/2016         An?           Homogeneous Yes         # Layers i           Non-Fibrous Components (in approx. decree)           Layers	•	iparen P	it Smp ' Pos Lave	Type er? No	Wall Sy		27/2016 <b># S</b> u	b-Sam		Conditio prous Solid	o <b>n:</b> accep	itable
							Percents	of Each	Fiber			
# Layer Type % Color	Friability		Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5	Fi	ib 6
i plaster 100 off-white Total % 100	2		n.d.		-		-		<u> </u>	-		-
1 <u></u> 1	Overali %		n.d.		-		-			-		]
	fentification:	none										
Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Index Deter	mination RI Par	
1 none 2						-				- correi		
3												
4 5				·····								
6												
Sample Analytical Note	1	I						L	1	1		
Procedure: tweased apart using forceps. Procedure	e: dissolutio	on of m	natrix us	ing di	ute HCI	acid.						
Analyzed By MCJ 9/29/2016 An? Homogeneous Yes # Layers 1 Non-Fibrous Components (in approx. decre		oparer F	nt Smp Pos Lay	Type er? No	Wall Sy		27/2016 <b># S</b> u	ıb-Sam		Conditio prous Solid	on:accep	otable
Layers							Percents	of Each	Fiber			
# Layer Type % Color	Friability		Fib 1		Fib 2		Fib 3		ib 4	Fib 5	F	ib 6
i plaster 100 off-white	2	] [	n.d.		-		-		- 1	-		- 1
Total % 100	Overall %	>	n.d.		-		-		T	-		-
Fiber I	dentification:	none										]
Fibers	Color	Mrph	Iso	Pieo	Bi					Index Deter		
1 none	00107	<u>1.11 bu 1</u>	130	FIEO	ы	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2 3												
4												
6												
Sample Analytical Note			1						]			
Procedure: tweased apart using forceps. Procedu	re: dissolutio	on of n	natrix us	sina di	ute HC	acid.						
Sample         11C         La           Analyzed By MCJ         9/29/2016         An?	b Number :						27/2016			Conditi	on: accep	otable
Homogeneous Yes # Lavers 1		-	nt Smp Pos Lay			/stem	# 51	ıb-Sam		brous Solid		
Non-Fibrous Components (in approx. decre	asing orde	r): pc	wder, r	ock, po	olymer				press			
Layers							Percents	of Each	Fiber			
# Layer Type % Color	Friability		Fib 1		Fib 2		Fib 3		Fib 4	Fib 5	F	ib 6
1 plaster 100 off-white	2	]	n.d.	Ι	-	.	-		İ	_		+
Total % 100	Overall %	•	n.d.		-				- 1	-		*
Fiber	dentification:	none		Ι								
Fibers		_						I	Refractive	Index Deter	mination	IS
1 none	Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2												
3	1							1	1			1
4								1				
<u>4</u> <u>5</u>												
5		~~~~~										
5 6 Sample Analytical Note				cinc 4								
5 6	re: dissoluti	on of r	natrix u	sing di	lute HC	l acid.						

et Phoenix, Arizona 85040-2816

PLM Analysis Details			Jo	b Nu	mber:		20160	9831	14	1-2016	-2027			
Sample 12A Analyzed By MCJ 9/29/ Homogeneous Yes Non-Fibrous Components Layers		An?( # Layers 1		ppare	nt Smp Pos Lay	Type er? No	Adhesiv			b-Sam		Condition Fous Solid	on: accep	otable
									Percents	of Each	Fiber			
# Layer Type	%	Color	Friability	r	Fib 1		Fib 2		Fib 3	F	íb 4	Fib 5	F	ib 6
1 sealant	100	red	1		n.d.		-		~		- 1	-		-
Total %	100		Overall 9	/o	n.d.		-		-		<u>·  </u>	-		-
		Fiber Id	entification:	none									-	1
Fibers				M. M.A.						R	efractive I	ndex Deter	mination	IS
1 none			Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2														
3											1			
4					<b> </b>									
6					-									Į
Sample Analytical Note			-	••	•				+		L	.1	L	السينية من المراجع الم
Procedure: tweased apart using	ng force	ps. Procedur	e: dissolut	ion of i	matrix u	sing so	lvent.							]
Sample 128		- L	Alumahar	2016	00034	<u>эг</u>	Carrie		27/20/ 2					
	/2016	An? (	Number		09831- nt Smp				27/2016 1		No. 61		on:acce	ptable
Homogeneous Yes		# Layers 1			Pos La			vercau		ıb-Sam		prous Solid		
Non-Fibrous Components			asing ord				•		# 31	10-5am	pical			
Layers			•											
# Layer Type	%	Color	Frinkilik		File 4			1	Percents					
1 sealant			Friability	<u></u>	Fib 1		Fib 2		Fib 3		ib 4	Fib 5	<u> </u>	ib 6
	100	red	1		n.d.	<u> </u>	-		-		1	-		
Total %	100		Overali (	% <u> </u>	n.d.		-		-			-		
		Fiber ic	tentification:	none							[			]
										F	Refractive	Index Date		10
Fibers			Color	Manta	1 700	Diee	l n:	E			-			
Fibers none			Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	
1 none			Color	Mrph	Iso	Pleo	Bi	Elg	Ext		-			
1 none 2 3			Color	Mrph	Iso	Pleo	Bi	Elg	Ext		-			
1 none			Color	Mrph	Iso	Pleo	Bi	Elg	Ext		-			
1 none 2 3 4			Color	Mrph		Pleo	Bi	Elg	Ext		-			
1 none 2 3 4 5 6 Sample Analytical Note								Elg	Ext		-			
1 none 2 3 4 5 6		eps. Procedur						Elg	Ext		-			
1 none     2     3     4     5     6     Sample Analytical Note     Procedure: tweased apart usi			e: dissolut	ion of	matrix	using so	blvent.				-	Col Per	RI Par	
1     none       2     3       3     4       5     6       Sample Analytical Note       Procedure: tweased apart usi       Sample       12C	ng force	Lat	e: dissolut	ion of 2016-	matrix 0	using so	olvent.	led: 9/	27/2016		Col Par	Col Per	RI Par	
1     none       2     3       3     4       5     6       Sample Analytical Note       Procedure: tweased apart usi       Sample 12C			e: dissolut D Number OK 4	ion of 2016-	matrix ( 09831- ent Smp	using so 36 • Type	Divent. Sampi Adhesi	led: 9/	27/2016 lk		Col Par	Col Per	RI Par	
1     none       2     3       3     4       5     6       Sample Analytical Note       Procedure: tweased apart usi       Sample 12C       Analyzed By MCJ     9/29	ng force /2016	Lat An? # Layers 1	re: dissolut	ion of 2016- Appare	matrix ( 09831- ent Smp Pos La	using so 36 <b>5 Type</b> yer? No	Divent. Sampi Adhesi	led: 9/	27/2016 lk		Col Par	Col Per	RI Par	
1     none       2     3       3     4       5     6       Sample Analytical Note       Procedure: tweased apart usi       Sample     12C       Analyzed By MCJ     9/29       Homogeneous Yes	ng force /2016	Lat An? # Layers 1	re: dissolut	ion of 2016- Appare	matrix ( 09831- ent Smp Pos La	using so 36 <b>5 Type</b> yer? No	Divent. Sampi Adhesi	led: 9/	27/2016 lk # S	ub-Sam	Non-fi	Col Per	RI Par	
1       none         2	ng force /2016 s (in ap	Lat An? # Layers 1 pprox. decre	re: dissolut o Number OK /	2016- Appare	matrix ( 09831- ent Smj Pos La iller, bir	using so 36 <b>5 Type</b> yer? No	Divent. Sampl Adhesi	led: 9/	27/2016 Ik # St Percents	ub-Sam	Col Par Non-fi ples 3	Col Per	RI Par	RI Per
1       none         2	ng force /2016 s (in ap %	Lat An? # Layers 1 prox. decre Color	e: dissolut o Number OK / casing ord Friabilit	2016- Appare	matrix ( 09831- ent Smp Pos La iller, bir Fib 1	using so 36 <b>5 Type</b> yer? No	Divent. Sampi Adhesi D	led: 9/	27/2016 k # St Percents Fib 3	ub-Sam	Non-fi	Col Per Condition	RI Par	RI Per
1     none       2	ng force /2016 s (in ap %	Lat An? # Layers 1 pprox. decre	e: dissolut D Number OK A Priabilit	lon of 2016- Appare (er): fi	matrix ( 09831- ent Smp Pos La Iller, bir Fib 1 n.d.	using so 36 <b>5 Type</b> yer? No	Divent. Sampi Adhesi D	led: 9/	27/2016 k # St Fib 3	ub-Sam	Col Par Non-fi ples 3 Fiber Fib 4	Col Per Condition	RI Par	RI Per
1       none         2	ng force /2016 s (in ap %	Lat An? # Layers 1 pprox. decre Color red	e: dissolut o Number OK / easing ord Friabilit 1 Overall	2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	using so 36 <b>5 Type</b> yer? No	Divent. Sampi Adhesi D	led: 9/	27/2016 k # St Percents Fib 3	ub-Sam	Col Par Non-fi ples 3	Col Per Condition	RI Par	RI Per
1     none       2	ng force /2016 s (in ap %	Lat An? # Layers 1 pprox. decre Color red	e: dissolut D Number OK A Priabilit	lon of 2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	using so 36 <b>5 Type</b> yer? No	Divent. Sampi Adhesi D	led: 9/	27/2016 k # St Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Condition Condit	on:acce	RI Per
1     none       2	ng force /2016 s (in ap %	Lat An? # Layers 1 pprox. decre Color red	e: dissolut o Number OK / easing ord Friabilit 1 Overall	ion of 2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	Jsing so 36 <b>5 Type</b> yer? No der,	Divent. Sampi Adhesi D Fib 2	led: 9/	27/2016 k # Si Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Col Per Condition Condition Fib 5	On: acce	RI Per
1       none         2       none         3       1         4       5         6       5         6       5         6       1         Sample Analytical Note       Procedure: tweased apart usi         Sample       12C         Analyzed By MCJ       9/29         Homogeneous Yes       Non-Fibrous Components         Layers       4         4       5         7       1         1       sealant         Total %       5         1       none	ng force /2016 s (in ap % 100	Lat An? # Layers 1 pprox. decre Color red	e: dissolut o Number OK / easing ord Friabilit 1 Overall dentification:	2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	using so 36 <b>5 Type</b> yer? No	Divent. Sampi Adhesi D	led: 9/	27/2016 k # St Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Condition Condit	On: acce	RI Per
1       none         2	ng force /2016 s (in ap % 100	Lat An? # Layers 1 pprox. decre Color red	e: dissolut o Number OK / easing ord Friabilit 1 Overall dentification:	ion of 2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	Jsing so 36 <b>5 Type</b> yer? No der,	Divent. Sampi Adhesi D Fib 2	led: 9/	27/2016 k # Si Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Col Per Condition Condition Fib 5	On: acce	RI Per
1       none         2       none         3       1         4       5         6       5         6       5         6       1         Sample Analytical Note       Procedure: tweased apart usi         Sample       12C         Analyzed By MCJ       9/29         Homogeneous Yes       Non-Fibrous Components         Layers       4         4       5         7       1         1       sealant         Total %       5         1       none	ng force /2016 s (in ap % 100	Lat An? # Layers 1 pprox. decre Color red	e: dissolut o Number OK / easing ord Friabilit 1 Overall dentification:	ion of 2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	Jsing so 36 <b>5 Type</b> yer? No der,	Divent. Sampi Adhesi D Fib 2	led: 9/	27/2016 k # Si Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Col Per Condition Condition Fib 5	On: acce	RI Per
1       none         2	ng force /2016 s (in ap % 100	Lat An? # Layers 1 pprox. decre Color red	e: dissolut o Number OK / easing ord Friabilit 1 Overall dentification:	ion of 2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	Jsing so 36 <b>5 Type</b> yer? No der,	Divent. Sampi Adhesi D Fib 2	led: 9/	27/2016 k # Si Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Col Per Condition Condition Fib 5	On: acce	RI Per
1       none         2       none         3       none         4       none         5       6         Sample Analytical Note         Procedure: tweased apart usi         Sample       12C         Analyzed By MCJ       9/29         Homogeneous Yes       Non-Fibrous Components         Layers       1         sealant       Total %         Fibers       1         3       4	ng force /2016 s (in ap % 100	Lat An? # Layers 1 pprox. decre Color red	e: dissolut o Number OK / easing ord Friabilit 1 Overall dentification:	ion of 2016- Appare er): fi	matrix ( 09831- ent Smj Pos La Iller, bir Fib 1 n.d. n.d.	Jsing so 36 <b>5 Type</b> yer? No der,	Divent. Sampi Adhesi D Fib 2	led: 9/	27/2016 k # Si Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Col Per Condition Condition Fib 5	On: acce	RI Per
1       none         2       none         3       none         4       none         5       none         6       none         Sample Analytical Note       Procedure: tweased apart usi         Sample       12C         Analyzed By MCJ       9/29         Homogeneous Yes       Non-Fibrous Components         Layers       none         1       sealant         Total %       Fibers         1       none         3       4         5       6         Sample Analytical Note	ng force /2016 s (in ap % 100 100	Lat An? # Layers 1 pprox. decree Color [red ] Fiber I	e: dissolut	ion of 2016- Appare er): fl %	matrix ( 09831- ent Smp Pos La Iller, bir Fib 1 n.d. n.d. Iso	Joing Solution	Plvent. Sampl Adhesi P Fib 2 - - Bi	led: 9/	27/2016 k # Si Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Col Per Condition Condition Fib 5	On: acce	RI Per
1       none         2	ng force /2016 s (in ap % 100 100	Lat An? # Layers 1 pprox. decree Color [red ] Fiber I	e: dissolut	ion of 2016- Appare er): fl %	matrix ( 09831- ent Smp Pos La Iller, bir Fib 1 n.d. n.d. Iso	Joing Solution	Plvent. Sampl Adhesi P Fib 2 - - Bi	led: 9/	27/2016 k # Si Fib 3	ub-Sam	Non-fi ples 3 Fiber Fib 4	Col Per Condition Condition Fib 5	On: acce	RI Per

PLM Analysis Details	Jo	b Nur	nber:	:	20160	9831	. 14	4-2016	2027					
Sample         13A         Lab           Analyzed By MCJ         9/29/2016         An? (           Homogeneous Yes         # Layers 1           Non-Fibrous Components (in approx, decreating the second secon		pparer F	nt Smp Pos Lav	Type er? No	Wall Sy			ıb-Samı	ples 3	Conditio prous Solid	on:acce	otable		
# Layer Type % Cotor	Friability		Eik 4	1	<b>5</b> 21 0		Percents							
1 plaster 100 off-white	2		Fib 1		Fib 2		Fib 3	F	ib 4	Fib 5	<u> </u> <u>F</u>	ib 6		
Total % 100	Overall %		n.d		-		-					]		
	entification:	none					-			-				
	on no any h	TIONS												
Fibers	Color	Mrph	Iso	Pleo	Bi	Elg	Ext		Col Par	Index Deter	minatior RI Par			
1 none														
3										<u> </u>				
4 5														
6														
Sample Analytical Note														
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid.														
Sample     13B     Lab       Analyzed By MC3     9/29/2016     An? (       Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation)		pparei F	nt Smp Pos Lav	Type er? No	Wall Sy		/27/2016 <b># S</b> l	ıb-Sam		Condition Drous Solid	on:acce	ptable		
							Percents	of Each	Fiber					
# Layer Type % Color	Friability		Fib 1	1	Fib 2		Fib 3	F	ib 4	Fib 5	F	ib 6		
1 plaster 100 off-white	2	]	n.d.		-		-		- I.	*		- 1		
Total % 100	Overall %	6	n.d.		-		-		-	-	Τ	-		
Fiber Id	entification:	none						<u> </u>						
Fibers	Color	Manh	T	<b>B</b> I + -	51		11			Index Deter				
1 none	2010/	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per		
3												·····		
4														
5														
6			[											
Sample Analytical Note Procedure: tweased apart using forceps, Procedur	n dinastriti													
	e: dissoluti	on or r	natrix us	sing di	lute HC	acid.								
	Number	2016-0	09831- 3	19	Sampl	ed: 9,	/27/2016			Conditi	on:acce	otable		
Analyzed By MCJ 9/29/2016 An? (	OK A		nt Smp Pos Lay	er? No		/stem	# Sı	ıb-Sam		prous Solid				
Homogeneous Yes # Layers 1 Non-Fibrous Components (in approx. decre	asing orde	e <b>r):</b> po	wder, r	ock, po	olymer									
Homogeneous Yes # Layers 1 Non-Fibrous Components (in approx. decre.		er): po	owder, r	ock, po	-		Percents	of Each	Fiber			]		
Homogeneous     Yes     # Layers 1       Non-Fibrous     Components (in approx. decreations)       Layers	Friability	er): po	owder, n Fib 1	ock, po	Fib 2		Percents Fib 3		Fiber 'ib 4	Fib 5		ib 6		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Color       1     plaster       100     off-white	Friability	er): po	Fib 1	ock, po	Fib 2					Fib 5		-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Color       1     plaster       100     off-white       Total %     100	Friability 2 Overall %	er): po	owder, n Fib 1	ock, po	Fib 2		Fib 3							
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Color       1     plaster       100     off-white       Total %     100	Friability	er): po	Fib 1	ock, po	Fib 2		Fib 3		-   -	•		-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Color       1     plaster       100     off-white       Total %     100	Friability 2 Overall %	er): po	Fib 1 n.d. n.d.		Fib 2		Fib 3 -		-	- Index Deter	minatio	-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Cofor       1     plaster       100     off-white       Fibers       1     none	Friability 2 Overall 9 Ientification:	er): po	Fib 1	Pleo	Fib 2	Elg	Fib 3		-   -	•	minatio	-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Color       1     plaster       100     off-white       Total %     100       Fibers	Friability 2 Overall 9 Ientification:	er): po	Fib 1 n.d. n.d.		Fib 2	Elg	Fib 3 -		-	- Index Deter	minatio	-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decre.       Layers       #     Layer Type       %     Cofor       1     plaster       100     off-white       Fibers     Fiber lot       3     4	Friability 2 Overall 9 Ientification:	er): po	Fib 1 n.d. n.d.		Fib 2	Elg	Fib 3 -		-	- Index Deter	minatio	-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Color       1     plaster       100     off-white       Fibers     Fiber log       3     4       5	Friability 2 Overall 9 Ientification:	er): po	Fib 1 n.d. n.d.		Fib 2		Fib 3 -		-	- Index Deter	minatio	-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decre.       Layers       #     Layer Type       %     Cofor       1     plaster       100     off-white       Total %     100       Fibers     1       1     none       2     3       4     5       6     6	Friability 2 Overall 9 Ientification:	er): po	Fib 1 n.d. n.d.		Fib 2	Elg	Fib 3 -		-	- Index Deter	minatio	-		
Homogeneous Yes     # Layers 1       Non-Fibrous Components (in approx. decreation       Layers       #     Layer Type       %     Color       1     plaster       100     off-white       Fibers     Fiber log       3     4       5	Friability 2 Overall % Ientification: Color	er): po	Fib 1 n.d. n.d. Iso	Pleo	Fib 2 - - Bi		Fib 3 Ext		-	- Index Deter	minatio	-		

eet Phoenix, Arizona 85040-2816

		Jo	ob Nu	imber:	:	20160	9831	14	1-2016	-2027			
Sample 14A Analyzed By MCJ 9/29/2016 Homogeneous Yes #   Non-Fibrous Components (in appro	An? C Layers 1		ppare	ent Smp Pos Lay	Туре	Wall Sy		27/2016 <b># Su</b>	b-Sam		Condition Drous Solid	on:acce	ptable
								Percents	of Each	Fiber			
# Layer Type %	Color	Friability		Fib 1		Fib 2		Fib 3	1	ib 4	Fib 5		Fib 6
1 powder 100	white	4		n.d.		-		-		-	-		-
Total % 100		Overall %	/0	n.d.		-		-		- 1	-		-
	Fiber Id	entilication:	none	)									]
Fibers	г	Color	Mente	1 700	Disa						Index Deter		
1 попе			Mrph	Iso	Pieo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
2 3													<u>+</u> {
4													
5													h
6										1		1	
Sample Analytical Note Procedure: tweased apart using forceps	Procedury	a, dissoluti		man hada a sa									
Totecare: theased apart asing forceps.	riocedure			matrix u	sing ai	ute HC	acid.						
Sample 148 Analyzed By MCJ 9/29/2016	Lab An? C	Number						27/2016			Conditi		ptable
	Layers 1		hhaid	ent Smp Pos Lay			stem	# 50	ıb-Sam		brous Solid		
Non-Fibrous Components (in appr		asing orde	er): p	bowder, ,				# 30	D-9411	hica n			
Layers							·· · ·	Percents	of Each	Eihor			
# Layer Type %	Color	Friability	,	Fib 1	1	Fib 2		Fib 3		Fib 4	Fib 5		Fib 6
1 powder 100	white	4		n.d.		-				-			
Total % 100		Overall 9	%	n.d.	1	-				I	-		
	Fiber Id	entification:	none	3	T								
			l				I			i Refractive	Index Dete	miastio	nc 1
Fibers		Color	Mrph	Iso	Pieo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	the second s
Fibers       1     none       2		Color	Mrph	Iso	Pieo	Bì	Elg	Ext					the second s
1 none 2 3		Color	Mrph	Iso	Pieo	Bì	Elg	Ext					the second s
1 none 2 3 4		Color	Mrph	Iso	Pieo	Bi	Elg	Ext					the second s
1 none 2 3		Color	Mrph		Pieo	Bi	Elg	Ext					the second s
1 none 2 3 4 5 6 Sample Analytical Note								Ext					the second s
1         none           2         3           4         5           6         6	. Procedure							Ext					the second s
1     none       2     3       3     4       5     6       Sample Analytical Note       Procedure: tweased apart using forceps		e: dissoluti	ion of	matrix u	sing dl	lute HC	l acid.				Col Per	RI Par	RI Per
1 none 2 3 4 5 6 Sample Analytical Note		e: dissoluti	ion of 2016	matrix u	sing dl 42	lute HC Sampl	l acid. ed: 9/	Ext		Col Par	Conditi	ON: acce	RI Per
1       none         2	Lab An? ( Layers 1	e: dissoluti • Number DK A	ion of 2016	matrix u -09831- ent Smp Pos Lay	sing dl 42 <b>Type</b> /er? No	lute HC Sampl Wall S	l acid. ed: 9/	27/2016		Col Par	Col Per	ON: acce	RI Per
1       none         2       3         3       4         5       6         Sample Analytical Note       Procedure: tweased apart using forceps         Sample       14C         Analyzed By MCJ       9/29/2016         Homogeneous Yes       #         Non-Fibrous Components (in approximation)	Lab An? ( Layers 1	e: dissoluti • Number DK A	ion of 2016	matrix u -09831- ent Smp Pos Lay	sing dl 42 <b>Type</b> /er? No	lute HC Sampl Wall S	l acid. ed: 9/	27/2016		Col Par	Conditi	ON: acce	RI Per
1     none       2     3       3     4       5     5       6     5       Sample Analytical Note       Procedure: tweased apart using forceps       Sample 14C       Analyzed By MCJ     9/29/2016       Homogeneous Yes     #	Lab An? ( Layers 1	e: dissoluti • Number DK A	ion of 2016	matrix u -09831- ent Smp Pos Lay	sing dl 42 <b>Type</b> /er? No	lute HC Sampl Wall S	l acid. ed: 9/	27/2016	ıb-Sam	Non-fi	Conditi	ON: acce	RI Per
1       none         2       3         3       4         5       6         Sample Analytical Note       Procedure: tweased apart using forceps         Sample       14C         Analyzed By MCJ       9/29/2016         Homogeneous Yes       #         Non-Fibrous Components (in approximation)	Lab An? ( Layers 1	e: dissoluti • Number DK A	ion of 2016 Appart er): [	matrix u -09831- ent Smp Pos Lay	sing dl 42 <b>Type</b> /er? No	lute HC Sampl Wall S	l acid. ed: 9/	27/2016 # St	ib-Sam	Non-fi	Conditi	On: acce	RI Per
1       none         2       3         3       4         5       5         6       5         Sample Analytical Note       Procedure: tweased apart using forceps         Sample       14C         Analyzed By MCJ       9/29/2016         Homogeneous Yes       #         Non-Fibrous Components (in approximation of the second of the	Lab An? ( Layers 1 ox. decrea	e: dissoluti Number DK A asing orde	ion of 2016 Appart er): [	matrix u -09831- ent Smp Pos Lay powder, ,	sing dl 42 <b>Type</b> /er? No	lute HC Sampt Wall S	l acid. ed: 9/	27/2016 # St	ib-Sam	Col Par Non-fi ples 3	Col Per Conditi	On: acce	PI Per
1       none         2	Lab An? ( Layers i ox. decrea Color	e: dissoluti Number DK A asing orde	ion of 2016 Appare	matrix u -09831- ent Smp Pos Lay powder, , Fib 1	sing dl 42 <b>Type</b> /er? No	lute HC Sampl Wall S	l acid. ed: 9/	27/2016 # SL Percents Fib 3	ib-Sam	Col Par Non-fi ples 3	Conditi Conditi brous Solid	On: acce	RI Per
1     none       2     3       4     5       5     6       Sample Analytical Note       Procedure: tweased apart using forceps       Sample 14C       Analyzed By MCJ     9/29/2016       Homogeneous Yes     #       Non-Fibrous Components (in approximation of the second of the sec	Lab An? ( Layers 1 ox. decrea Color white	e: dissoluti • Number DK A asing order Friability 4	ion of 2016 Appare	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 n.d. n.d.	sing dl 42 <b>Type</b> /er? No	lute HC Sampl Wall S	l acid. ed: 9/	27/2016 # SL Percents Fib 3	ib-Sam	Non-fi ples 3 Fiber Fib 4	Conditi Conditi brous Solid	On: acce	PI Per
1       none         2	Lab An? ( Layers 1 ox. decrea Color white	e: dissoluti	ion of 2016 appare er): 1	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 n.d. n.d. e	sing dl 42 Type /er? No	lute HC Sampl Wall S' Fib 2	I acid. ed: 9/ ystem	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 - Fiber Fib 4	Conditi Conditi brous Solid	On:acce	Plable
1       none         2	Lab An? ( Layers 1 ox. decrea Color white	e: dissoluti DNumber DK A asing orde Friability 4 Overall 9	2016 2016 (ppar) er):	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 n.d. n.d. e	sing dl 42 <b>Type</b> /er? No	lute HC Sampl Wall S	l acid. ed: 9/	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 - Fiber Fib 4	Conditi Conditi brous Solid	On:acce	RI Per
1       none         2	Lab An? ( Layers 1 ox. decrea Color white	e: dissoluti	ion of 2016 appare er): 1	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 n.d. n.d. e	sing dl 42 Type /er? No	lute HC Sampl Wall S' Fib 2	I acid. ed: 9/ ystem	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 Fiber Fib 4	Conditi Conditi brous Solid Fib 5	On: acce	RI Per
1       none         2	Lab An? ( Layers 1 ox. decrea Color white	e: dissoluti	ion of 2016 appare er): 1	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 n.d. n.d. e	sing dl 42 Type /er? No	lute HC Sampl Wall S' Fib 2	I acid. ed: 9/ ystem	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 Fiber Fib 4	Conditi Conditi brous Solid Fib 5	On: acce	RI Per
1       none         2	Lab An? ( Layers 1 ox. decrea Color white	e: dissoluti	ion of 2016 appare er): 1	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 n.d. n.d. e	sing dl 42 Type /er? No	lute HC Sampl Wall S' Fib 2	I acid. ed: 9/ ystem	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 Fiber Fib 4	Conditi Conditi brous Solid Fib 5	On: acce	RI Per
1       none         2	Lab An? ( Layers 1 ox. decrea Color white	e: dissoluti	ion of 2016 appare er): 1	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 n.d. n.d. e	sing dl 42 Type /er? No	lute HC Sampl Wall S' Fib 2	I acid. ed: 9/ ystem	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 Fiber Fib 4	Conditi Conditi brous Solid Fib 5	On: acce	RI Per
1       none         2	Lab An? ( Layers 1 ox. decrea Color white Fiber Id	e: dissoluti	ion of 2016 Appare () () () () () () () () () () () () ()	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 a.d. a.d. a.d. e Iso	sing dl 42 Type /er? No   	lute HC Sampl Wall S Fib 2 - - Bi	I acid. ed: 9/ ystem	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 Fiber Fib 4	Conditi Conditi brous Solid Fib 5	On: acce	RI Per
1       none         2	Lab An? ( Layers 1 ox. decrea Color white Fiber Id	e: dissoluti	ion of 2016 Appare () () () () () () () () () () () () ()	matrix u -09831- ent Smp Pos Lay powder, , Fib 1 a.d. a.d. a.d. e Iso	sing dl 42 Type /er? No   	lute HC Sampl Wall S Fib 2 - - Bi	I acid. ed: 9/ ystem	27/2016 # SL Percents Fib 3	of Each	Non-fi ples 3 Fiber Fib 4	Conditi Conditi brous Solid Fib 5	On: acce	RI Per

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Sample       15A       Lab Number       2016-09831-43       Sampled:       9/27/2016       Condition:       Condition: <t< th=""><th>table</th></t<>	table
# Laver Type % Color Frightlity Fib 1 Fib 2 Fib 2	
# Layer Type % Color Friability Fib 1 Fib 2 Fib 3 Fib 4 Fib 5	]
	ib 6
Fiber Identification: chrysoille asbestos	
Fibers  Color Mrph Iso Pleo Bi Elg Ext Oil Col Par Col Per BI Par	
1 chrysotile asbestos W A M A M A Chrysotile asbestos	RI Per 1.553
3	
4	
5 6	
Sample Analytical Note	
Procedure: tweased apart using forceps.	
	]
Sample         15B         Lab Number         2016-09831-44         Sampled:         9/27/2016         Condition:acce           Analyzed By MCJ         9/29/2016         An? OK         Apparent Smp Type         Insulation         Elbrours Mat	otable
Homogeneous Vec #1 avera 1	
Non-Fibrous Components (in approx. decreasing order): binder, ,	
Layers	
# Layer Type % Color Friability Fib 1 Fib 2 Fib 3 Fib 4 Fib 5	
1         gasket         100         gray         1         30-40%         -	ib 6
Total % 100 Overail % 30-40% -	<u> </u>
Fiber Identification: Chrysolile asbestos	
Color Mrph Iso Pleo Bi Elg Ext Oil Col Par Col Per BI Par	RI Per
1     chrysotile asbestos     W     A     N     L     +     P     1.550     db/ly     sb/o     1.561	1.553
3	
6	
Sample Analytical Note	
Procedure: tweased apart using forceps.	
Sample 15C Lab Number 2016-09831-45 Sampled: 9/27/2016 Condition:acce	
Analyzed By MCJ 9/29/2016 An? OK Apparent Smp Type Insulation Fibrous Mat	otable
Homogeneous Yes # Layers 1 Pos Layer? Yes # Sub-Samples 3	
Non-Fibrous Components (in approx, decreasing order), binder	
Non-Fibrous Components (in approx. decreasing order): binder, ,	
Layers Percents of Each Fiber	ib 6
Layers         Percents of Each Fiber           #         Layer Type         %         Color         Fib 1         Fib 2         Fib 3         Fib 4         Fib 5	100
Layers         Percents of Each Fiber           #         Layer Type         %         Color         Friability         Fib 1         Fib 2         Fib 3         Fib 4         Fib 5           1         gasket         100         gray         1         30-40%         -<	-
Layers     Percents of Each Fiber       #     Layer Type     %     Color     Friability     Fib 1     Fib 2     Fib 3     Fib 4     Fib 5       1     gacket     100     same backet     Fib 1     Fib 2     Fib 3     Fib 4     Fib 5	-
Layers         Percents of Each Fiber           #         Layer Type         %         Color         Friability         Fib 1         Fib 2         Fib 3         Fib 4         Fib 5           1         gasket         100         gray         1         30-40%         -<	
Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5         1       gasket       100       gray       1       30-40%       -       -       -       -         Total %       100       Overall %       30-40%       -       -       -       -       -         Fiber Identification:       chrysotile asbestos       Refractive Index Determination       Refractive Index Determination	
Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5         1       gasket       100       gray       1       30-40%       -	- - - NS RI Per
Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5         1       gasket       100       gray       1       30-40%       -	
Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5         1       gasket       100       gray       1       30-40%       -	- - - NS RI Per
Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5         1       gasket       100       gray       1       30-40%       -	- - - NS RI Per
Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5         1       gasket       100       gray       1       30-40%       -	- - - NS RI Per
Layers       Percents of Each Fiber         #       Layer Type       %       Color       Friability       Fib 1       Fib 2       Fib 3       Fib 4       Fib 5         1       gasket       100       gray       1       30-40%       -	- - - NS RI Per

et Phoenix, Arizona 85040-2816

PLM Analysis Details	Job Number:	201609831	14-2016-2027
			1. 1010 LOL/

fr=Frlability: 1=very non-frlable; 2= non-frlable; 3=frlable; 4=highly frlable 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 Paralel, 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

Analyst: MARK C. JEFFERSON

Printed: 29-Sep-16 Original Print Date: 29-Sep-16

Larry S. Pierce, Approved Accreditation Signatory

FIBERQUANT	
ANALYTICAL	SERVICES
Fiberquant Analytical Services Phoentx, AZ 85040; Phone: 602-276-6139; FAX: 602-2 Info@fiberquant.com	76-4558;
Analysis Request/Chain-of-Cust	tody Form
AMEC FOSTER WILLEL	
Address 4600 E. WASHINGTON	STE 400
City, State, Zip Code Phy AZ	
Phone FAX	
Email	·
Invoice to (Company) AMEC FW	
Address	
City, State, Zip Code	
Phone FAX	
Contact (print) Pary WALRIAM	
Sampled by (signalize)	· ·
Job Number bc//roject Name 14 -2016 - 2027	· · · · · · · · · · · · · · · · · · ·
PO Number	

<anaiy ONLY (</anaiy 	sis Meth		equested> <u>) per COC</u>	Tur		ound-ti le one)	me
	CATE TAL	moi	V DEF CUC	Rus		Norm	Ext.
	Method >	Improv	minerim be	Urgent	<6	13	<u>+</u>
Asbestos	Analyza >	/M		Rush	krs i	days	$\binom{15}{30}$
by PLM	If ATPF then	5	Layer by Sample	<3 hrs	'	1	days
	Single Layer	Protocol	> Yes No	1			
Fibers by PCM	Method >	7400 (Are	a) ORM (Personal)	<4 h	rs	24 hrs	<u> </u> .
	in Air >	AHERA	Mod. AHERA	<6 h	ſS	24 hrs	3-5 days
Asbestos	In Water" >	Water	Sludge	1-2 da	vs	3-5	]
by ТЕМ	in Bulk (Anne	x2)> (	Chatfield Full Quant.	1		days	NA
		ASTM D5	755	3-5 da	ys	5-10 days	N∕A
	Analyle >	РЬ	Other	]			
		Filter >	MCE FG				
Pb by FLAA	Matrix >	Peini >	by Area (mg/cm <sup>z</sup> ) by Weight (ppm)	<6 h/	÷ -	2-3	N/A
TUAN	I H	Soil >		] ``"	3	days	NVA
		Wipe >		4			
	E1792 comp	Saut	wipes used are ASTM				
	Air Sample >	Zei	on Aller Olher	-			
Fungi	Bulk >		ampia Swab		s	1.2	NA
-	Tape LHI >		valiative (% & type)	1 -310	-	days	147
		00	antitative (type/cm2)				
Soot	ASTM D660	2-03b	Optical	<6 h	5	1·2 days	NVA
			Oplical & TEM	1-2 da	iys	3-5 days	N∛A
Other	•			Cal		Call	

Sample # (1 per line)	Description/Location	Sample Date	Sample Time	Vol. or Area
1) 1. A-C	THN WALL ADMESIVE	9/27/14		VOIL OF ATEA
2) 2 A-C	CONCRETE WALL		······	
3) 3 A-C	PIPE RUN ANSVLATION - STRAIG	HT		
4) 4 A-C	PIDE ELBOWS			
5) 5 A-C	STAIRS .			
6) 6 A-C	FOUNDATION			
"7 A-C	CONCRETE DECK - FENTRY			<u> </u>
8) B A-C	WALL PATCH- ENTRY			
9) 9A-C	GABRETS. RED			
10) 10 A-C	PLASTER CEILING - BULER R	001		<u> </u>
11) 11 A-C	PLASTER PATCH . BOILER RE	20M		1
12) 12 A-C	WINDOW PUTTY		t	1
13) 13 A-C	TROWELED PLASTER			
14) 14 A-C	WHITE PATCH-CEILINE & W.	ALL		
15) 15 A-C	LASKETS-GRAY			
16)			······································	
17)				
18)				
19)	· · · · · · · · · · · · · · · · · · ·			
20)				<u> </u>
1)Relinquisted w:	A Dated 7/14 Time: 3)Relinquish	ed by:	Date:	Time:
2)Borterverapy:	gate: 11 Time: Co 4)Received	by:	Date:	Time:
* TEM Water: Sample's nan Reputied by State of Arizona	Name	Fiberquant assigned Job Number>	2016	09831
Review of Analysis	Request (Initials)?		Page o	r

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.

••

30<sup>th</sup> August 2022

DECELVE AUG 31 2022 By\_\_\_\_\_

Hello Teresa,

Please find enclosed ...Material I have in my file here at Bullion. I'm sure the Town of Miami has more complete documentation if needed. Hopefully, some of this will be helpful for you.

I thought Jennie's comment on incorporating the crawl space into the basement project was interesting. Time has passed, budgets changed, maybe now is the time to finish the project off and clean up the remaining mess.

By the way - Bullion Plaza is leased from the Town of Miami by BPCCM, and I am not employed by the Town, although we work together at various times. So as we move forward we will need to bring them into the conversation.

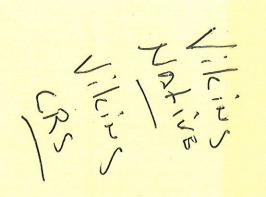
Enjoyed talking with you and thanks for your time.

Regards, Thomas N.

Executive Director Bullion Plaza Cultural Center & Museum PO Box 786 Miami, Arizona 85539



Mobile: 602.432.7474





ADE Q Baramant

REMEDIATION, EMERGENCY AND CONSTRUCTION SERVICES

333 East Osborn Road Suite 300 Phoenix, AZ 85012



KEN KNUTSON Senior Estimator ken.knutson@crs-info.com www.crs-info.com Arizona Contractors License 275441 1GPA #14-156 / AZ State Contract Number ADSP012-033251

Cell: 602-478-7672

Whon of FLAND

035 00



TOWN COUNCIL

Darryl Dalley, Mayor Don Reiman, Vice-Mayor Michael Black Jose "Angel" Medina Rosemary Castaneda Susan Hanson Sammy Gonzales

**TOWN OF MIAMI** "Copper Center of the World"

> 500 W. Sullivan St. Miami, AZ 85539 928-473-4403

Administration

Joseph Heatherly Town Manager Karen Norris Town Clerk

July 22, 2016

Jennie Curé Brownfields Coordinator Arizona Department of Environmental Quality 1110 West Washington Street Phoenix, AZ 85007

Dear Ms. Curé

The Town of Miami requests funding in the amount of \$7, 835 for a State Response Grant (SRG) from the Arizona Department of Environmental Quality (ADEQ) Brownfields Program to perform an asbestos and lead based paint survey on the basement of the Historic Bullion Plaza School Building (BPS). The BPS is located on a 2.0 acre property at 150 N. Plaza Circle, Miami, AZ. The site is not located in a WQARF or Superfund area and the Town of Miami is not a responsible party for the contamination. ADEQ will be the project manager under the Arizona Brownfields Response Contract (ABRC).

#### The Site

The site is located at 150 N Plaza Circle, Miami, Arizona. The site is 2.0 acres with Gila County assessor parcel number 204-15-012A. The Town of Miami currently owns the property. having purchased it from the Miami Unified School District #40 in 1997.

#### The Redevelopment

The BPS, which is a historical structure listed on the National Registry of Historic Places, is significant for its association with the history of Mexican American and Native American school segregation in Arizona and as an example of late Neo-Classical Revival architecture in public buildings in Miami. The BPS currently houses the Bullion Plaza Cultural Center and Museum (BPCCM), a 501(c)3 non-profit organization. The Museum's exhibits document the economic, social and cultural history of Miami. The BPCCM offers the use of their meeting and conference rooms for public and commercial events. The BPCCM regularly hosts a speaking series on historical and educational topics. The BPCCM, working with the Town of Miami has sought and received grants that have been used to abate hazardous materials throughout the building, restore the interior and exterior of the building and create new exhibits for the Museum. The basement of BPS has remained off limits due the dangers posed by asbestos and lead paint contamination. The future use of the BPS basement following abatement of asbestos and lead-based paint is to renovate the building allowing the Museum to expand its exhibit space to provide a site for a proposed underground mine tunnel display. The Town and the BPCCM believe that the renovation of the Bullion Plaza School will generate interest in preservation of historical buildings in Miami leading to the development of commercial businesses and other viable activities benefiting the community.

Dale Metz, Town of Miami Civil Engineering Technician, will be the key contact person to receive site update and any correspondence form ADEQ.

Page 1 of 1

#### Fwd: Bullion Plaza School Grant

From: "D Metz" <dmetzmiami@gmail.com>

To: "Tom Foster" <az.terr1912@yahoo.com>

From: Jennie E. Curé <<u>Cure.Jennie@azdeq.gov</u>> Date: Tue, Jul 18, 2017 at 2:32 PM Subject: RE: Bullion Plaza School Grant To: D Metz <<u>drmetzmiami@gmail.com</u>>

#### Hello Dale,

I have \$62,850 in the budget for the abatement project on the museum. I am working on getting projects lined up and would like to be able to receive your grant request the week of August 14. Please send in the request letter asking for the \$62,850 and I can start the paperwork that week. If you put it in the mail on Friday, August 11 that should work. Use the previous letter for a template but ask for the \$62,850 for asbestos abatement.

Please do not hesitate to contact me with any questions or concerns you may have.

Sincerely,

Jennie

From: D Metz [mailto:dmetzmiami@gmail.com] Sent: Tuesday, July 18, 2017 2:25 PM To: Jennie E. Curé <<u>Cure.Jennie@azdeg.gov</u>> Subject: Bullion Plaza School Grant

Hi Jennie,

Tom Foster is applying for a USDA grant to install an elevator in the building to make all levels handicapped accessible. If he can show other money or grants being invested in the building it will improve the chances for approval. Are there any funds set aside for the upcoming abatement project that we can show as an authorized grant? If so what amount can we list? Thanks for any help you can provide.

Regards,

Dale Metz Town of Miami

#### Friday, July 21, 2017 3-20 PM

Subject:Proposal - Bullion Plaza Boiler & Storage AbatementFrom:Kristy Huggins (KHuggins@nativeaz.com)To:az.terr1912@yahoo.com;Cc:JRiggs@nativeaz.com; DKnutson@nativeaz.com;Date:Monday, March 30, 2015 9:39 AM

Good morning Mr. Foster,

Native's proposal for asbestos abatement at the Bullion Plaza is attached. Please contact us with any questions.

Thank you,

# **Kristy Huggins**

**Project Manager** 

Native Environmental, LLC

602.254.0122 Phone

602.254.0144 Fax

602.570.3115 Cell

khuggins@nativeaz.com



"Environmental Solutions for the Next Generation"

# Agreement Between Contractor and Owner Native Environmental, LLC 3250 S. 35th Ave. - Phoenix, AZ 85009 Office (602) 254-0122 Fax (602) 254-0144

## Bid Number: JR15-123

#### THIS AGREEMENT, entered into Monday, March 30, 2015 by and between Native Environmental and ATTN:

Client Information	Project Information
Thomas N. Foster Executive Director Bullion Plaza Cultural Center & Museum az.terr1912@yahoo.com	Project Name: Boiler & Storage Abatement Project Location: Bullion Plaza

THE PARTIES AGREE TO THE FOLLOWING:

1. Scope of Work: Native Environmental agrees to provide the following Contracting Services:

### A. Basement Stairwell

Remove and dispose of bags containing asbestos material. HEPA vacuum and wet-wipe the area

<b>Bid Price</b>	Tax	Other	Total
\$1,150.00	N/A	N/A	\$1,150.00

#### B. Boiler - Asbestos Abatement

Bid Price	Tax	Other	Total
\$9,700.00	N/A	N/A	\$9,700.00

## C. Boiler - Cut & Remove

<b>Bid Price</b>	Tax	Other	Total
\$4,300.00	N/A	N/A	\$4,300.00

D. Room 3 – NW Room: Remove 20 LF of fallen 8" TSI. HEPA vac and wet-wipe all surfaces. NOTE: This room should be immediately sealed due to the high amounts of airborne asbestos

Bid Price	Tax	Other	Total
3.300.00	N/A	N/A	\$3.300.00

#### E. Room 4 – NE Storage

Remove 30 LF of 8" TSI. HEPA vac and wet-wipe all surfaces

Bid Price	Tax	Other	Total
\$2,300.00	N/A	N/A	\$2,300.00

2. **Price includes:** All labor, materials, personal protective equipment, air monitoring, vehicles, transportation, and travel/per diem as applicable to the scope of work.

# Native Environmental Proposal Page 2

- 3. Schedule: This job will be performed Monday through Friday, during the hours necessary to meet your schedule unless prior arrangements have been made. Please keep in mind that weekend and holiday work may incur additional overtime costs.
- 4. Payment for Invoices is due 30 days from the invoice date. Interest shall accrue on past due invoices at 2% per month or no greater than 24% annually on all unpaid invoices.
- 5. Any alterations or deviations from the specified scope of work will be completed upon written consent from authorized personnel. This proposal shall become part of the contract document and by signing, you agree to all conditions listed within.
- 6. Bid price is good for 60 calendar days, at which time Owner and Native Environmental can confer with one another on current market price.

## NOTES:

- A. Compliance with Federal, State and Local regulations.
- B. Per occurrence \$5 million A++ rated Insurance.
- C. Arizona Contractors License #161563
- D. MSHA Contractor ID U916

Native Environmental appreciates the opportunity to bid on your work. If you have any questions or concerns regarding the content of this proposal please do not hesitate one of our Estimators

Submitted by: Jon Riggs Native Environmental, LLC Accepted by:

Date: \_\_\_\_\_

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		Search Mail	Search Web Thomas	Account In 👔 Go	Sign Out	Home
Inbox Contacts	Notepad Calendar		Switch to the	e newest Yahoo Mail		
Compose	Delete Reply Reply All Forward	Actions	Apply Previou	s Next		
Inbox (3205)	The Easy Loan New Fed	eral Program Help	s Pay Off Your Mo			
Drafts (5)			in until you read this.			
Sent	Fwd: Proposal with abatement on ncluded	contractor price	i Wednesday, January 4, 20	17 1:58 PM		
Spam (7)	[Empty] From: "D Metz" <dmetzmiami@gmail< td=""><td>.com&gt;</td><td></td><td></td><td></td><td></td></dmetzmiami@gmail<>	.com>				
Trash (6)	[Empty] To: "Tom Foster" <a href="mailto:key">To: "Tom Foster" <a href="mailto:sauker">az.terr1912@ya</a></a>	ahoo.com>				
			Full H	eaders Printable View		
My Folders	[Edit] 1 Files 57KB Download All					
Archive	PDF 57KB PV16-12-1 0 Miami Bullion.pdf Save					
	Tom,					

Here is the proposal for the BPM&CC abatement. Let me know if you have any questions.

#### Dale

From: Walrath, Pam cprem.walrath@amecfw.com>
Date: Wed, Jan 4, 2017 at 1:22 PM
Subject: Proposal with abatement contractor price included
To: "dmetzmiami@gmail.com>
Cc: "Jennie E. Curé" <<u>Cure.Jennie@azdeg.gov</u>>, "Ostapuk, Tim" <<u>Tim.Ostapuk@amecfw.com</u>>

#### Dale,

Please find attached the proposal for the Miami Bullion Cultural Center Basement abatement work. Please let me know if you have any questions and Happy New Year!

#### Best Regards,

Pamela Walrath Environmental Scientist AMEC Foster Wheeler Environment & Infrastructure Americas 4600 E. Washington Street, Suite 600 Phoenix, Az 85034-1917, USA T + 1 602-733-6091 M + 480-217-1225 pam.walrath@amecfw.com www.amecfw.com



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Phone: 602-733-6000 Fax: 602-733-6110



#### PARTIES

This project coordinated this 4th day of January 2017, between:

Town of Miami		Amec Foster Wheeler Environment & Infrastructure, Inc.		
500 West Sullivan Street	4600 East	t Washington Street, Suite 600		
Miami, Arizona 85539	Phoenix, A	Arizona 85034		
Attn: Mr. Dale Metz	Attn: M	lrs. Pam Walrath		
hereinafter called "Client"	hereinafte	hereinafter called "Amec Foster Wheeler"		

### PROJECT

Client engages Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) to provide services in connection with this proposal, PV16-12-10 dated January 4, 2017.

For the following site:

Asbestos and Lead Abatement Oversight Miami Bullion Plaza and Cultural Center – Basement (Phase 1) & Crawlspace (Phase 2) 150 North Plaza Circle, Miami AZ

#### SCOPE OF SERVICES

Amec Foster Wheeler understands that the Client is requesting asbestos abatement and lead stabilization oversight of materials located in the four rooms of the basement and crawlspaces of Miami Bullion Cultural Center (the site). The abatement and stabilization will be performed in two phases: Phase I will include materials located in the four rooms of the basement and Phase II will include the pipe run insulation located in the crawlspaces.

#### Phase | Materials:

- Material #3 (Thermal Systems Insulation (TSI), Straight Runs Approximately 400 linear feet (lin. ft.) Throughout Basement and Crawlspaces.
- Material #4 (Thermal Systems Insulation (TSI), Elbows) Approximately 15 each Throughout Basement Spaces (including confined space).
- Material #15 (Miscellaneous, Category I Non-Friable): Gray Gaskets Approximately 2 each Boiler Room on Equipment.
- Assumed ACM (Thermal Systems Insulation (TSI), Boiler Insulation Wrap Approximately 2 each On Boiler Equipment.
- Assumed ACM (Miscellaneous, Category I Non-Friable), Disposal Bags of Removed Building Material Approximately 20 each
- Lead containing white wall (200 ppm)
- Lead containing gray on stairs (3,800 ppm)
- Lead containing varnished door (3,900 ppm)
- Lead containing gray paint on wall (1,600 ppm)
- Lead containing silver pipe (1,700 ppm)

## Phase II Materials:

- Material #3 (Thermal Systems Insulation (TSI), Straight Runs Approximately 400 linear feet (lin. ft.) Throughout Basement and Crawlspaces.
- Material #4 (Thermal Systems Insulation (TSI), Elbows) Approximately 15 each Throughout Basement Spaces (including confined space).

For each phase of work Amec Foster Wheeler will perform the following tasks:

### <u>Task 1</u>

Amec Foster Wheeler will attend a pre-abatement meeting on-site. The meeting will include members of Town of Miami, Arizona Department of Environmental Quality and the abatement contractor.

Amec Foster Wheeler will prepare an Asbestos and Lead Abatement Work Plan, which will include sections relating to the summary of work, job site administration, codes and regulations, worker protection, work area preparation, asbestos and lead removal procedures, waste disposal, project clearance and submittals. Amec Foster Wheeler will provide copies of the Asbestos and Lead Abatement Work Plan to the asbestos and lead abatement contractor.

### <u>Task 2</u>

Amec Foster Wheeler will provide an Asbestos Hazard Emergency Response Act-certified Contractor/Supervisor (C/S) to perform full-time oversight. The C/S will observe abatement contractor's work while abatement activities are being performed. During the removal and cleaning phases of the abatement, Amec Foster Wheeler will collect area air samples from outside the work Area to provide an indication of the effectiveness of the contractor's abatement and cleaning methods. Air Samples will be analyzed by Fiberquant Analytical Services in general accordance with the NIOSH 7400 Method for Phase Contract Microscopy (PCM) on a RUSH turnaround, to determine airborne fiber concentrations. The abatement contractor will be responsible for personal air monitoring required for the health and safety of its own workers.

Following the abatement contractor's completion of abatement activities, Amec Foster Wheeler will conduct a visual inspection of the containment area to determine that all surfaces are free of debris, residue, dust, or other visible matter. The final visual will be performed in general accordance with the "Standard Practice for Visual Inspection of Asbestos Abatement Projects," ASTM Designation: E 1368-14.

After the C/S determines that the containment areas are visually clean, final clearance air samples will be collected, which will be analyzed using PCM methodology in accordance with the method specified in the Work Procedure. Following visual and final air clearances, Amec Foster Wheeler will document and ensure the completion of any punch list items.

## <u>Task 3</u>

At the completion of the project, Amec Foster Wheeler will document the abatement activities in a Final Report of Abatement. The report will include a summary project information, contractor abatement reports and close-out documentation, field and photographic documentation, air sampling results, and consultant's accreditations. Amec Foster Wheeler will provide the Client with one original and one electronic copy of the final report.

Client agrees that all services not expressly included are excluded from Amec Foster Wheeler's Scope of Services.

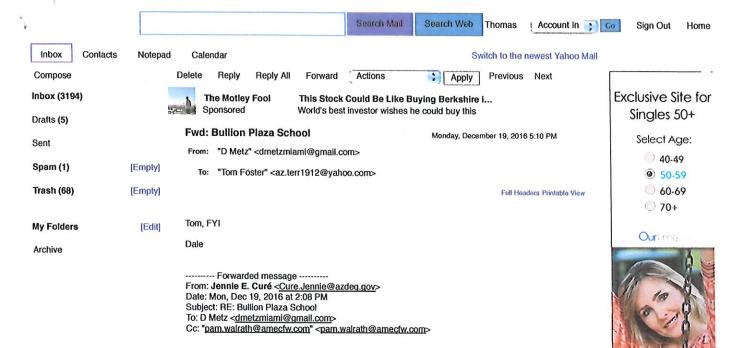
#### COMPENSATION

Phase 1 – Cost Estimate for Miami Bullion Plaza and Cultural Center – Basement				
Task 1 – Pre-Abatement Meeting and Development of Abatement Work Plan	Units	Quantity	Unit Cost	Totals
Professional Level III	hour	8	\$126.00	\$1,008.00
Professional Level II	hour	12	\$94.50	\$1,134.00
Support Staff III	hour	4	\$63.00	\$252.00
Task 1 Subtotal Task 2 - Asbestos Removal and Lead Stabilization				\$2,394.00
Oversight	Units	Quantity	Unit Cost	Totals
Professional Level III	hour	8	\$126.00	\$1,008.00

Professional Level II	hour	120	\$94.50	\$11,340.00
Support Staff III	hour	6	\$63.00	\$378.00
Travel Expenses	lump	1	\$1,200	\$1,200.00
PLM Analysis	each	45	\$17.25	\$776.25
Shipping Costs	lump	1	\$200.00	\$200.00
Task 2 Subtotal				\$14,902.25
Task 3 - Report Preparation	Units	Quantity	Unit Cost	Totals
Professional Level III	hour	4	\$126.00	\$504.00
Professional Level II	hour	10	\$94.50	\$945.00
Support Staff III	hour	8	\$63.00	\$504.00
Task 3 Subtotal			·····	\$1,953.00
Amec Foster Wheeler Phase 1 TOTAL				\$19,249.25

Task 1 – Pre-Abatement Meeting and Development of Abatement Work Plan	Units	Quantity	Unit Cost	Totals
Professional Level III	hour	8	\$126.00	\$1,008.00
Professional Level II	hour	12	\$94.50	\$1,134.00
Support Staff III	hour	6	\$63.00	\$378.00
Task 1 Subtotal				\$2,520.00
Task 2 - Asbestos Removal	Units	Quantity	Unit Cost	Totals
Professional Level III	hour	8	\$126.00	\$1,008.00
Professional Level II	hour	130	\$94.50	\$12,285.00
Support Staff III	hour	8	\$63.00	\$504.00
Travel Expenses	lump	1	\$1,200	\$1,200.00
PLM Analysis	each	45	\$17.25	\$776.25
Shipping Costs	lump	1	\$200.00	\$200.00
Task 2 Subtotal				\$15,973.2
Task 3 - Report Preparation	Units	Quantity	Unit Cost	Totals
Professional Level III	hour	4	\$126.00	\$504.00
Professional Level II	hour	10	\$94.50	\$945.0
Support Staff III	hour	8	\$63.00	\$504.0
Task 3 Subtotal				\$1,953.0
TOTAL				\$20,446.2
Amec Foster Wheeler Phase 1 and Phase 2 Total				\$39,695.5
Total Projec	t Cost's Breakd	lown		
CRS Environmental Phase 1				\$34,987.0
CRS Environmental Phase 2				\$112,000.0
CRS Phase 1 and Phase 2 TOTAL				146,987.0
Project Estimate with Amec Foster Wheeler and CRS Environmental Totals TOTAL				\$186,682

Amec Foster Wheeler's fees will be based on our Statewide Environmental Consulting Services for Asbestos and Lead No. **ADEQ17-140276**. This proposal is valid for 90 days from the date of issuance. If notice to proceed is received after that period, Amec Foster Wheeler reserves the right to review this proposal and revise costs in response to changed assumptions or increases in material or labor costs as a result of economic changes.



#### Dale,

I have bids in from three contractors for the abatement of the basement and crawl space. The crawl space will be a difficult and expensive project and I do not believe a good use of the Brownfields grant funds, therefore when we do the project we will be providing funding for the basement only. The basement project bid from CRS for the abatement was the most accurate and reasonable at \$34,987.00. The oversight portion of the project was bid at \$19,250 by AMEC. Due to the total combined cost of \$54,237.00 for the basement project I will award funding with FY18 grant funds which will be available in July, 2017. As we approach that date I will be in touch to request an application for the project. If anything changes with the status of currently available funds I will notify you.

Happy Holidays,

Sincerely,

Jennie

# Jennie E. Curé

**Brownfields Coordinator** 

Voluntary Remediation Program Unit/Remedial Projects Section AZ Department of Environmental Quality 1110 W. Washington St. Phoenix, AZ 85007 (602) 771-2296 jec@azdeq.gov www.azdeq.gov Environmental Resources Roadshows

support citizen efforts to maintain and beautify community. Learn more here.

From: D Metz [mailto:dmetzmiami@gmail.com] Sent: Monday, December 19, 2016 1:50 PM To: Jennie E. Curé <<u>Cure.Jennie@azdeq.gov</u>> Subject: Bullion Plaza School

Hi Jennie

I have been out of Town for the last two weeks and I haven't heard from anyone since the walk thru. Has there been any progress on the abatement bids?

 Dale Metz

 Town of Miami

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# Another Project Partially Funded By The Arizona Department of Environmental Quality's Brownfields Program

# ADEQ Brownfields Grant: Town of Miami Asbestos and Lead Based Paint Abatement Old Bullion Plaza School

# ADEQ Contract No: ADEQ18-182186

Si usted tiene preguntas, o para informacion en espaiiol sobre este proyecto, por favor llamar al Maria Lopez, Town of Miami, 928-473-4403

The Arizona Department of Environmental Quality (ADEQ) is providing funding on behalf of the Town of Miami through a Brownfields State Response Grant to conduct Asbestos and Lead Based Paint Abatement at the Old Bullion Plaza School, 150 N Plaza Circle, Miami, Arizona beginning on October 23rd 2017.

FOR MORE INFORMATION PLEASE CONTACT:Dale MetzTown of Miami928-473-9024

Printed on Recycled Paper

Tuesday, November 14, 2017 11:18 AM

#### **Bullion Plaza Update**

From: "Dylan Whitwer" <dwhitwer@geotekusa.com>

- To: "jec@azdeq.gov" <jec@azdeq.gov> "dmetzmiami@gmail.com" <dmetzmiami@gmail.com> "AZ.terr1912@yahoo.com" <AZ.terr1912@yahoo.com>
- Cc: "steve.beirl@crs-info.com" <steve.beirl@crs-info.com> "Tod Whitwer" <twhitwer@geotekusa.com>

#### All -

I wanted to give a quick project update:

Last week, the remainder of the TSI, boiler, associated pipe runs/elbows, ACM debris bags, and other miscellaneous debris were abated and disposed of at their appropriate landfills. The PCB-containing light ballasts were removed from the second floor and basement and also disposed of.

Yesterday, the gray lead-containing paint on the stairs was scraped and painted over. I obtained my lead wipe clearance samples and submitted them to the laboratory.

At this point we are waiting on the landfills to send back their signed waste manifests as well as waiting for the laboratory results from the lead wipe samples. We anticipate to have the manifests/laboratory reports returned to us by the end of this week or early next week. We will submit the draft report to the Town of Miami/ADEQ by mid-to-late next week. Please let me know if this schedule is acceptable.

In addition, the link below is photographs I obtained throughout the project. Please feel free to download and use as you see best fit. https://www.dropbox.com/sh/r0d0kxtdblw5bbn/AABeReOaT3MNNV3NhvvTncHGa?dl=0

Please let me know if you have any comments or concerns.

Thank you,

Dylan Whitwer Environmental Specialist GeoTek, Inc. 4050 East Cotton Center Boulevard, Suite 49 Phoenix, Arizona 85040 Cell: (623) 556-6455



Jeff@Viking-az.com | C: 602:686-2886 | 0: 480-568-8228 Physical: 1008A E. Vista Del Cerro Dr., Tempe, AZ 85281 Billing: 25249 S. 194th St., Queen Creek, AZ 85142 License: KB-1 ROC283086



Phoenix, AZ 85012 SUITE 300 1GPA #14-156 / AZ State Contract Number ADSP012-033251 Arizona Contractors License 275441 Senior Estimator ken.knutson@crs-info.com KEN KNUTSON www.crs-info.com

Cell: 602-478-7672



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Supervisor

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Joshua Derhammer Annal control & code enforcement

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