



ADDENDUM 02

Project: Upstate – Library (IRC) Fire Sprinkler (RE-BID)

Owner: USC Upstate

JCS Project #: 18104

State Project #: H34-9517

Date: 12/11/2019

GENERAL:

1. The Limited Asbestos Inspection Report provided by Crossroads Environmental, dated March 22, 2019, is included in this addendum for reference.
2. Construction work will start May 6, 2020. Contractor is advised that shop drawing preparation will proceed immediately after Notice of Award by the end of January 2020, to give ample time for review by the fire protection engineer and the State Fire Marshal prior to start of construction.

SPECIFICATIONS:

No changes.

DRAWINGS:

1. **Sheet FP100, General Note #11.** ADD to General Note #11 the following: "ALL SPRINKLER WORK IN THE 2ND FLOOR CLASSROOM SPACES MUST BE COMPLETE AND OCCUPIABLE PRIOR TO AUGUST 13, 2020, TO ALLOW CLASSES TO RESUME FOR THE FALL SEMESTER. THESE CLASSROOMS INCLUDE THE FOLLOWING ROOM NUMBERS: 225, 226, 227, 229, 234, 236, 238, 240, 246, 247, 248, 249, 250, 251, AND 252. COORDINATE SEQUENCING OF WORK ACCORDINGLY."
2. **Sheet FP100, General Note #13.** REVISE General Note #13 to read: "A SEPARATE RENOVATION PROJECT (UNDER SEPARATE CONTRACT) WILL OCCUR IN CONJUNCTION WITH THE SCOPE OF THIS PROJECT, TO INCLUDE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL MODIFICATIONS. ALL EXISTING CEILING REMOVAL, REPLACEMENT, AND REPAIR REQUIRED FOR SPRINKLER INSTALLATION WILL BE PERFORMED UNDER SEPARATE CONTRACT BY THE OWNER'S SPECIALTY CONTRACTOR OR THE RENOVATION CONTRACTOR, AND WILL NOT BE THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR. COORDINATE WORK WITH SEPARATE CONTRACTS TO FACILITATE INSTALLATION OF NEW WORK AND AVOID SCHEDULING CONFLICTS."

END OF ADDENDUM



LIMITED ASBESTOS INSPECTION REPORT

FOR

University of South Carolina Upstate
800 University Way
Spartanburg, SC 29303

LOCATION

Library (IRC) Fire Sprinkler & Upgrades
800 University Way
Spartanburg, SC 29303

INSPECTION DATE: March 20, 2019

REPORT DATE: March 22, 2019

INSPECTOR

Stanley Berry – SC-DHEC License #ASB-20411
(864) 541-8736

For

Crossroads Environmental, LLC
1258 Boiling Springs Road
Spartanburg, South Carolina 29303
(864) 541-8736
CRE Project # 16831-IN

TABLE OF CONTENTS

INSPECTION REPORT/LETTER

- BACKGROUND INFORMATION
- BUILDING/AREA DESCRIPTION
- INSPECTION STRATEGY/SAMPLING PROTOCOL
- RESULTS
- RELEVANT REGULATORY REQUIREMENTS/ RECOMMENDATIONS
- CLOSING STATEMENTS AND LIMITATIONS

ATTACHMENTS

- ATTACHMENT I: ASBESTOS SUMMARY TABLE
- ATTACHMENT II: LABORATORY REPORT(S)
- ATTACHMENT III: SAMPLE LOCATION SKETCH
- ATTACHMENT IV: INSPECTOR'S LICENSE/ACCREDITATION



March 22, 2019

Mr. Cody Godfrey
University of South Carolina Upstate
800 University Way
Spartanburg, SC 29303

Re: Limited Asbestos Inspection Report
Library (IRC) Fire Sprinkler & Updates
CRE Project Number: 16831-IN

Dear Mr. Godfrey:

Crossroads Environmental, LLC (CRE) performed a limited asbestos inspection in the Upstate- Library, located on the campus of USC Upstate at 800 University Way in Spartanburg, South Carolina. The inspection was performed on March 20, 2019, by a SC-DHEC Licensed Asbestos Inspector, and in accordance with South Carolina Department of Health and Environmental Control (SC-DHEC) and Environmental Protection Agency (EPA) Requirements. **A detailed summary table of the sampling is included in Attachment I; however, this report should be read in its entirety.**

Area Description

CRE's scope of work was limited to sampling all suspect asbestos-containing building materials that will be impacted by the 'Upstate-Library (IRC) Fire Sprinkler & Upgrades' project. These materials include casework and associated carpeting, drywall ceilings, spray-applied fireproofing, and limited vinyl floor tile and associated cove base.

Inspection Strategy/Sampling Protocol

The inspection consisted of grouping suspect asbestos containing materials into homogeneous areas based on the color and texture of the material, and then performing representative sampling of the materials included in those homogeneous areas. SC-DHEC has requirements for the minimum number of samples that can be collected from each homogeneous area (three samples of each miscellaneous material, three samples of each type of thermal system insulation, and the sample requirements for surfacing are based on square footage). Following completion of the on-site inspection/sampling, samples were submitted to an accredited laboratory for analysis.

As of June 27, 2008, SC-DHEC requires that any non-friable organically bound (NOB) material that is suspect to contain asbestos, such as floor tile, mastics, roofing material, and caulking must be analyzed by transmission electron microscopy (TEM) if polarized light microscopy (PLM) analyses of that material indicate that no asbestos was detected in the first sample analyzed.

Results

EPA recognizes a material as Asbestos Containing Material (ACM) if an asbestos content of greater than one percent asbestos is detected in a representative sample analyzed by polarized light microscopy.

Results indicated that greater than one percent asbestos was detected in the mastic adhesive under 12" x 12" vinyl floor tile in Electrical Room 011. Please Note: This material is scheduled to be removed/disturbed as part of the project scope.

Relevant Regulatory Requirements/Recommendations

Friability-Friable materials are defined as materials that can be reduced to powder by hand pressure. It should be noted that non-friable materials may become friable depending on the method of removal. All non-friable materials must be removed by properly accredited asbestos personnel. If the non-friable materials are removed in a friable manner, then all regulations in regards to friable abatement will apply, and the abatement must be performed by a SC-DHEC Licensed Asbestos Contractor, and in accordance with all state and federal regulations.

All abatement of asbestos-containing materials (ACM) must be performed by a South Carolina Licensed Asbestos Abatement Contractor.

Closing Statements and Limitations

If any materials are scheduled to be disturbed that were not included in this inspection, then they should be sampled prior to disturbance.

This document has been prepared by Crossroads Environmental, LLC at the request of and for the exclusive use of The University of South Carolina Upstate. This report represents the findings from the date that it was inspected, and is limited in scope to that indicated above.

Crossroads Environmental, LLC appreciates the opportunity to provide The University of South Carolina Upstate with our consultative services. Should you have any questions or need additional information, please do not hesitate to contact us.

Sincerely,



Stan Berry
Licensed Inspector



Kay H. Horton
President

EH

Attachments- (4)

ATTACHMENT I
ASBESTOS SUMMARY TABLE W/ PHOTOS

CROSSROADS ENVIRONMENTAL, LLC ASBESTOS INSPECTION REPORT							CRE JOB #: 16831-IN					
Location:		Library (IRC) Fire Sprinkler & Upgrades										
Client:		University of South Carolina Upstate					DATE: 3/22/2019					
Key: A=Amosite, C=Chrysotile, Cr=Crocidolite, Tr=Tremolite, Ac=Actinolite Asbestos, Misc.=Miscellaneous, HA#=Homogeneous Area #, PLM=Polarized Light Microscopy, TEM=Transmission Electron Microscopy, /=PLM and/or TEM Analysis Not Required sq.ft.=Square Feet, cu.ft.=Cubic Feet, In.ft.=Linear Feet, HJI=Hard Joint Insulation, TSI=Thermal System Insulation, BUR=Built-up Roofing, Surf=Surfacing NAD=No Asbestos Detected, SP=Stop Positive												
HA#	Type of Material TSI, Surf, Misc.	Material Type	Sample Number	Asbestos Content (PLM)	Asbestos Content (TEM)	Location of Sample	Approx. Quantity	Physical Condition	Location/ Comments			
01	Surf	Drywall & Joint Compound	101 Drywall	NAD	/	1st floor under	N/A	Good; Friable	Located on stairwell ceilings, restroom ceilings and janitorial ceilings throughout.			
			101 Spackle	NAD	/	Stairwell ST05						
			102 Drywall	NAD	/	Janitorial 115						
			102 Spackle	NAD	/							
			103 Drywall	NAD	/	Men's Restroom						
103 Spackle	NAD	/	114									
			104 Drywall	NAD	/	Janitorial Closet						
			104 Spackle	NAD	/	231						
			105 Drywall	NAD	/	Men's Restroom						
			105 Spackle	NAD	/	230						
02	Misc	Carpet Glue	106	NAD	/	At Circulation Desk	N/A	Good; Non-Friable	Located in Circulation/ Help Desk area on 1st floor.			
						107				NAD	/	At Circulation Desk
						108				/	NAD	At Circulation Desk
						101						

CROSSROADS ENVIRONMENTAL, LLC ASBESTOS INSPECTION REPORT							CRE JOB #: 16831-IN		
Location:		Library (IRC) Fire Sprinkler & Upgrades							
Client:		University of South Carolina Upstate					DATE: 3/22/2019		
Key: A=Amosite, C=Chrysotile, Cr=Crocidolite, Tr=Tremolite, Ac=Actinolite Asbestos, Misc.=Miscellaneous, HA#=Homogeneous Area #, PLM=Polarized Light Microscopy, TEM=Transmission Electron Microscopy, /=PLM and/or TEM Analysis Not Required sq.ft.=Square Feet, cu.ft.=Cubic Feet, In.ft.=Linear Feet, HJI=Hard Joint Insulation, TSI=Thermal System Insulation, BUR=Built-up Roofing, Surf=Surfacing NAD=No Asbestos Detected, SP=Stop Positive									
HA#	Type of Material TSI, Surf, Misc.	Material Type	Sample Number	Asbestos Content (PLM)	Asbestos Content (TEM)	Location of Sample	Approx. Quantity	Physical Condition	Location/ Comments
03	Misc	Glue for Carpet Pad	109	NAD	/	At Circulation Desk 101	N/A	Good; Non-Friable	Located in Circulation/ Help Desk area on 1st floor.
			110	NAD	/	At Circulation Desk 101			
			111	/	NAD	At Circulation Desk 101			
04	Misc	Green Carpet Glue	112	NAD	/	At Reference Desk adjacent to Office 103/104	N/A	Good; Non-Friable	Located in Reference Desk area on 1st floor.
			113	NAD	/	At Reference Desk adjacent to Office 103/104			
			114	/	NAD	At Reference Desk adjacent to Office 103/104			

CROSSROADS ENVIRONMENTAL, LLC ASBESTOS INSPECTION REPORT							CRE JOB #: 16831-IN		
Location:		Library (IRC) Fire Sprinkler & Upgrades							
Client:		University of South Carolina Upstate					DATE: 3/22/2019		
Key: A=Amosite, C=Chrysotile, Cr=Crocidolite, Tr=Tremolite, Ac=Actinolite Asbestos, Misc.=Miscellaneous, HA#=Homogeneous Area #, PLM=Polarized Light Microscopy, TEM=Transmission Electron Microscopy, /=PLM and/or TEM Analysis Not Required sq.ft.=Square Feet, cu.ft.=Cubic Feet, In.ft.=Linear Feet, HJI=Hard Joint Insulation, TSI=Thermal System Insulation, BUR=Built-up Roofing, Surf=Surfacing NAD=No Asbestos Detected, SP=Stop Positive									
HA#	Type of Material TSI, Surf, Misc.	Material Type	Sample Number	Asbestos Content (PLM)	Asbestos Content (TEM)	Location of Sample	Approx. Quantity	Physical Condition	Location/ Comments
05	Surf	Spray-Applied Fireproofing	115	NAD	/	Column adjacent to Office 110	N/A	Good; Friable	Located throughout on support columns and decking.
			116	NAD	/	Column adjacent to Men's Restroom 114			
			117	NAD	/	Column on 1st floor, west wall			
			124	NAD	/	Column on 1st floor, west wall			
			125	NAD	/	Debris on floor in Electrical 011			
06	Misc	12" x 12" Light Tan Vinyl Floor Tile w/ Mastic	118 VFT 118 Mastic	NAD 5%C	/ /	Electrical Room 011	530 sq. ft.	Good; Non-Friable	Located in Electrical Room 011.
			119 VFT 119 Mastic	NAD S/P	/ /	Electrical Room 011			
			120 VFT 120 Mastic	/ /	NAD 9.6%C	Electrical Room 011			

CROSSROADS ENVIRONMENTAL, LLC ASBESTOS INSPECTION REPORT							CRE JOB #: 16831-IN		
Location:		Library (IRC) Fire Sprinkler & Upgrades							
Client:		University of South Carolina Upstate					DATE: 3/22/2019		
<p>Key: A=Amosite, C=Chrysotile, Cr=Crocidolite, Tr=Tremolite, Ac=Actinolite Asbestos, Misc.=Miscellaneous, HA#=Homogeneous Area #, PLM=Polarized Light Microscopy, TEM=Transmission Electron Microscopy, /=PLM and/or TEM Analysis Not Required sq.ft.=Square Feet, cu.ft.=Cubic Feet, In.ft.=Linear Feet, HJI=Hard Joint Insulation, TSI=Thermal System Insulation, BUR=Built-up Roofing, Surf=Surfacing NAD=No Asbestos Detected, SP=Stop Positive</p>									
HA#	Type of Material TSI, Surf, Misc.	Material Type	Sample Number	Asbestos Content (PLM)	Asbestos Content (TEM)	Location of Sample	Approx. Quantity	Physical Condition	Location/ Comments
07	Misc	Brown Vinyl Cove Base	121 Vinyl 121 Glue	NAD NAD	/ /	Electrical Room 011	N/A	Good; Non- Friable	Located in Electrical Room 011.
			122 Vinyl 122 Glue	NAD NAD	/ /	Electrical Room 011			
			123 Vinyl 123 Glue	/ /	NAD NAD	Electrical Room 011			

ATTACHMENT II
LABORATORY REPORT(S)

March 21, 2019

Crossroads Environmental
1258 Boiling Springs Road
Spartanburg, SC 29303

CLIENT PROJECT: 16831-IN
CEI LAB CODE: A196243

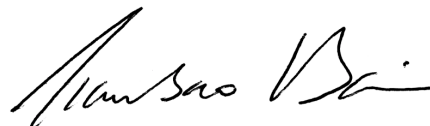
Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on March 21, 2019. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH
Laboratory Director

ASBESTOS ANALYTICAL REPORT

By: Polarized Light Microscopy

Prepared for

Crossroads Environmental

CLIENT PROJECT: 16831-IN

LAB CODE: A196243

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 03/21/19

TOTAL SAMPLES ANALYZED: 20

SAMPLES >1% ASBESTOS: 1

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 16831-IN

LAB CODE: A196243

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
101	Layer 1	A88145	White	Drywall	None Detected
	Layer 2	A88145	White	Spackle	None Detected
102	Layer 1	A88146	White	Drywall	None Detected
	Layer 2	A88146	White	Spackle	None Detected
103	Layer 1	A88147	White	Drywall	None Detected
	Layer 2	A88147	White	Spackle	None Detected
104	Layer 1	A88148	White	Drywall	None Detected
	Layer 2	A88148	White	Spackle	None Detected
105	Layer 1	A88149	White	Drywall	None Detected
	Layer 2	A88149	White	Spackle	None Detected
106		A88150	Yellow	Carpet Glue	None Detected
107		A88151	Yellow	Carpet Glue	None Detected
109		A88152	Yellow	Carpet For Carpet Pad	None Detected
110		A88153	Yellow	Carpet For Carpet Pad	None Detected
112		A88154	Green	Green Carpet Glue	None Detected
113		A88155	Green	Green Carpet Glue	None Detected
115		A88156	Gray	Fire Proofing	None Detected
116		A88157	Gray	Fire Proofing	None Detected
117		A88158	Gray	Fire Proofing	None Detected
124		A88159	Gray	Fire Proofing	None Detected
125		A88160	Gray	Fire Proofing	None Detected
118		A88161A	Tan	Vft	None Detected
		A88161B	Black	Mastic	Chrysotile 5%
119		A88162A	Tan	Vft	None Detected
		A88162B		Sample Not Analyzed per COC	
121		A88163A	Brown	Vinyl Base Board	None Detected
		A88163B	Brown	Glue	None Detected
122		A88164A	Brown	Vinyl Base Board	None Detected
	Layer 1	A88164B	Brown	Glue	None Detected
	Layer 2	A88164B	Tan	Glue	None Detected



CEI

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Crossroads Environmental
1258 Boiling Springs Road
Spartanburg, SC 29303

Lab Code: A196243
Date Received: 03-21-19
Date Analyzed: 03-21-19
Date Reported: 03-21-19

Project: 16831-IN

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous		
101 Layer 1 A88145	Drywall	Heterogeneous White Fibrous Bound	25%	Cellulose	75%	Gypsum	None Detected
	Layer 2 A88145	Spackle Heterogeneous White Fibrous Bound	<1%	Cellulose	3%	Paint Silicates Calc Carb	None Detected
102 Layer 1 A88146	Drywall	Heterogeneous White Fibrous Bound	25%	Cellulose	75%	Gypsum	None Detected
	Layer 2 A88146	Spackle Heterogeneous White Fibrous Bound	<1%	Cellulose	3%	Paint Silicates Calc Carb	None Detected
103 Layer 1 A88147	Drywall	Heterogeneous White Fibrous Bound	25%	Cellulose	75%	Gypsum	None Detected
	Layer 2 A88147	Spackle Heterogeneous White Fibrous Bound	<1%	Cellulose	3%	Paint Silicates Calc Carb	None Detected
104 Layer 1 A88148	Drywall	Heterogeneous White Fibrous Bound	25%	Cellulose	75%	Gypsum	None Detected



CEI

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Crossroads Environmental
1258 Boiling Springs Road
Spartanburg, SC 29303

Lab Code: A196243
Date Received: 03-21-19
Date Analyzed: 03-21-19
Date Reported: 03-21-19

Project: 16831-IN

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
Layer 2 A88148	Spackle	Heterogeneous White Fibrous Bound	<1%	Cellulose	3%	Paint Silicates Calc Carb	None Detected
105 Layer 1 A88149	Drywall	Heterogeneous White Fibrous Bound	25%	Cellulose	75%	Gypsum	None Detected
Layer 2 A88149	Spackle	Heterogeneous White Fibrous Bound	<1%	Cellulose	3%	Paint Silicates Calc Carb	None Detected
106 A88150	Carpet Glue	Heterogeneous Yellow Fibrous Bound	<1%	Synthetic Fiber	100%	Mastic	None Detected
107 A88151	Carpet Glue	Heterogeneous Yellow Fibrous Bound	<1%	Synthetic Fiber	100%	Mastic	None Detected
109 A88152	Carpet For Carpet Pad	Heterogeneous Yellow Fibrous Bound	<1%	Synthetic Fiber	100%	Mastic	None Detected
110 A88153	Carpet For Carpet Pad	Heterogeneous Yellow Fibrous Bound	<1%	Synthetic Fiber	100%	Mastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Crossroads Environmental
 1258 Boiling Springs Road
 Spartanburg, SC 29303

Lab Code: A196243
Date Received: 03-21-19
Date Analyzed: 03-21-19
Date Reported: 03-21-19

Project: 16831-IN

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
112 A88154	Green Carpet Glue	Heterogeneous Green Fibrous Bound	<1%	Synthetic Fiber	100%	Mastic	None Detected
113 A88155	Green Carpet Glue	Heterogeneous Green Fibrous Bound	<1%	Synthetic Fiber	100%	Mastic	None Detected
115 A88156	Fire Proofing	Heterogeneous Gray Fibrous Loosely Bound	80%	Fiberglass	20%	Binder	None Detected
116 A88157	Fire Proofing	Heterogeneous Gray Fibrous Loosely Bound	80%	Fiberglass	20%	Binder	None Detected
117 A88158	Fire Proofing	Heterogeneous Gray Fibrous Loosely Bound	80%	Fiberglass	20%	Binder	None Detected
124 A88159	Fire Proofing	Heterogeneous Gray Fibrous Loosely Bound	80%	Fiberglass	20%	Binder	None Detected
125 A88160	Fire Proofing	Heterogeneous Gray Fibrous Loosely Bound	80%	Fiberglass	20%	Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Crossroads Environmental
 1258 Boiling Springs Road
 Spartanburg, SC 29303

Lab Code: A196243
Date Received: 03-21-19
Date Analyzed: 03-21-19
Date Reported: 03-21-19

Project: 16831-IN

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
118 A88161A	Vft	Heterogeneous Tan Fibrous Tightly Bound	<1%	Cellulose	65%	Vinyl Calc Carb	None Detected
A88161B	Mastic	Heterogeneous Black Fibrous Bound			95%	Mastic	5% Chrysotile
119 A88162A	Vft	Heterogeneous Tan Fibrous Tightly Bound	<1%	Cellulose	65%	Vinyl Calc Carb	None Detected
A88162B	Sample Not Analyzed per COC						
121 A88163A	Vinyl Base Board	Heterogeneous Brown Fibrous Tightly Bound			100%	Vinyl	None Detected
A88163B	Glue	Heterogeneous Brown Fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
122 A88164A	Vinyl Base Board	Heterogeneous Brown Fibrous Tightly Bound			100%	Vinyl	None Detected
Layer 1 A88164B	Glue	Heterogeneous Brown Fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected



CEI

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Crossroads Environmental
1258 Boiling Springs Road
Spartanburg, SC 29303

Lab Code: A196243
Date Received: 03-21-19
Date Analyzed: 03-21-19
Date Reported: 03-21-19

Project: 16831-IN

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
Layer 2 A88164B	Glue	Heterogeneous Tan Fibrous Bound	<1%	Cellulose	100% Mastic	None Detected

LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
Non-Trem = Non-Asbestiform Tremolite
Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

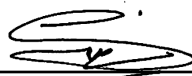
REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

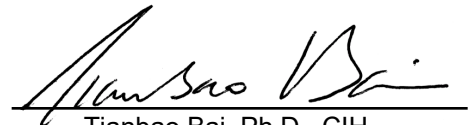
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST:



Saithya Painkal

APPROVED BY:



Tianbao Bai, Ph.D., CIH
Laboratory Director

CROSSROADS ENVIRONMENTAL, LLC
 Sample Chain of Custody
 1258 Boiling Springs Road
 Spartanburg, SC 29303
 Phone (864) 541-8736
 Fax (864) 541-8776
 results@crossroadsenv.net

Date Sent: 3/20/19
 Project ID#: 16831-IN
 Submitted to: CEI
 Number of Samples: 19
 Fax Results: _____ email _____
 Shipping Info: _____ # _____

Type of Analysis:

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM	PLM	TEM	AAS	Other
Air	Bulk	Air	Chips/	_____
		Bulk	Wipes	_____
			Water	_____

Turn Around:

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM	TEM	72 HR	5 Day
Other: <u>6-8 hr. PLM / 8hr. TEM</u>			

Special Instructions: *start concurrently.

Stop Positive PLM any layers not TEM'd

Sample ID#	DESCRIPTION OF SAMPLE	COMMENTS
101	DWT & SPACKLE	PLM NOT STOP
102	↓	POSITIVE
103	↓	
104	↓	
105	↓	
106	CARPET GLUE	HA PLM
107	↓	02 PLM
108	↓	TEM
109	GLUE FOR CARPET	HA PLM
110	PAD	03 PLM
111	↓	TEM
112	GREEN CARPET GLUE	HA PLM
113	↓	04 PLM
114	↓	TEM
115	FIRE PROOFING	
116	↓	HA
117	↓	05
124	↓	
125	↓	

EUROFINS CEI, INC
SAMPLES ACCEPTED

Signature & Date of Handlers: 3/20/19

Relinquished By: Stan Berry

Received By: FED EX 814399740520

Received By: SB 3/21/19 9:20

March 22, 2019

Crossroads Environmental
1258 Boiling Springs Road
Spartanburg, SC 29303

CLIENT PROJECT: 16831-IN
LAB CODE: T191062

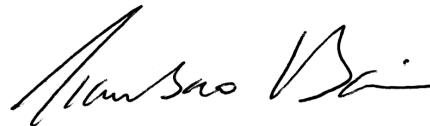
Dear Customer:

Enclosed are asbestos analysis results for TEM bulk samples received at our laboratory on March 21, 2019. The samples were analyzed for asbestos using transmission electron microscopy (TEM) per Chatfield Method.

Sample results containing > 1% asbestos are considered asbestos-containing materials (ACMs) per the EPA regulatory requirements. The detection limit for the TEM Chatfield method is <1% depending on the processed weight and constituents of the sample.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH
Laboratory Director



CEI

ASBESTOS ANALYTICAL REPORT
By: Transmission Electron Microscopy

Prepared for

Crossroads Environmental

CLIENT PROJECT: 16831-IN

LAB CODE: T191062

TEST METHOD: Bulk Chatfield
EPA 600 / R93 / 116

REPORT DATE: 03/22/19



CEI

ASBESTOS BULK ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

Client: Crossroads Environmental
1258 Boiling Springs Road
Spartanburg, SC 29303

Lab Code: T191062
Date Received: 03-21-19
Date Analyzed: 03-22-19
Date Reported: 03-22-19

Project: 16831-IN

TEM BULK CHATFIELD / EPA 600 / R93 / 116

Client ID Lab ID	Material Description	Sample Weight (g)	Organic Material %	Acid Soluble Material %	Acid Insoluble Material %	Asbestos %
108 T95918	Carpet Glue	0.145	53.8	31	15.2	None Detected
111 T95919	Glue for Carpet Pad	0.162	61.1	4.9	34	None Detected
114 T95920	Green/Yellow Carpet Glue	0.192	57.3	14.6	28.1	None Detected
120 T95921	VFT	0.5482	22.8	65.7	11.5	None Detected
120 T95922	Mastic	0.121	47.1	33.1	19.8	9.6% Chrysotile
123 T95923	Baseboard	0.314	26.8	39.8	33.4	None Detected
123 T95924	Tan Mastic	0.103	44.7	6.8	48.5	None Detected
123 T95925	Brown Mastic	0.231	48.1	42	9.9	None Detected

LEGEND: None

METHOD: CHATFIELD & EPA/600/R-93/116

LIMIT OF DETECTION: Varies with the weight and constituents of the sample (<1%)

REGULATORY LIMIT: >1% by weight


This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. *Estimated measurement of uncertainty is available on request.* Samples were received in acceptable condition unless otherwise noted.

Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST:


Amanda Rucinski

APPROVED BY:


Tianbao Bai, Ph.D., CIH
Laboratory Director

CROSSROADS ENVIRONMENTAL, LLC
 Sample Chain of Custody
 1258 Boiling Springs Road
 Spartanburg, SC 29303
 Phone (864) 541-8736
 Fax (864) 541-8776
 results@crossroadsenv.net

Date Sent: 3/20/19 Page 1 of 2
 Project ID#: 16831-IN
 Submitted to: CEI
 Number of Samples: 19
 Fax Results: _____ email _____
 Shipping Info: _____ # _____

Type of Analysis:

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM	PLM	TEM	AAS	Other
Air	Bulk	Air	Chips/	_____
		Bulk	Wipes	_____
			Water	_____

Turn Around:

<input checked="" type="checkbox"/> PLM	<input checked="" type="checkbox"/> TEM	<input type="checkbox"/>	<input type="checkbox"/>
72 HR	5 Day	72 HR	5 Day
Other: <u>6-8 hr. PLM / 8hr. TEM</u>			

Special Instructions: *start concurrently.

Stop Positive PLM any layers not TEM'd

Sample ID#	DESCRIPTION OF SAMPLE	COMMENTS
101	DWT & SPACKLE	PLM NOT STOP
102		POSITIVE
103		
104		HA
105		01
106	CARPET GLUE	HA PLM
107		02 PLM
108		TEM
109	GLUE FOR CARPET	PLM
110	PAD	HA PLM
111		03 TEM
112	GREEN CARPET GLUE	PLM
113		HA PLM
114		04 TEM
115	FIRE PROOFING	
116		HA
117		05
124		
125		

EUROFINS CEI, INC
 SAMPLES ACCEPTED
 dwt 3-21

Signature & Date of Handlers: 3/20/19

Relinquished By: Stan Berry
 Relinquished By: _____
 Relinquished By: _____

Received By: FED EX 8143 9974 0520
 Received By: SB 3/21/19 9:20
 Received By: _____

ATTACHMENT III
SAMPLE LOCATION SKETCH AND/OR PHOTOS

**ATTACHMENT III
ACCREDITATION(S)**

SCDHEC ISSUED

Asbestos ID Card

Stanley Berry



**CONSULTBI
AIRSAMPLER**

**ASB-20411
ASB-20289**

Expiration Date:

**11/27/19
12/17/19**