



Steve Minassian  
Axiom Partners, Inc.  
545 Salem St.  
Wakefield MA 01880

Project Reference: 01288.004  
Laboratory Batch #: 1616568  
Date Samples Received: 06/22/2016  
Date Samples Analyzed: 06/22/2016  
Date of Final Report: 06/22/2016

**SAMPLE IDENTIFICATION:**

Eight (8) samples from Consentino Middle School; Haverhill, MA project were submitted by HR Forgione on 2016/06/22

This bulk sample(s) was delivered to Optimum Analytical Consulting, LLC (Optimum) located in Salem, New Hampshire for asbestos content determination.

**ANALYTICAL METHOD:**

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-600/M4-82-020, EPA-600/ R-93-116). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter ( $<0.25\mu\text{m}$ ) may not be detected by the PLM method. Floor tile and other resinously bound material may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additional analytical methods may be required. Optimum recommends using Transmission Electron Microscopy (TEM) for a more definitive analysis.

Optimum will retain all samples for a minimum of three months. Further analysis or return of samples must be requested within this three month period to guarantee their availability. This report may not be reproduced except in full, without the written approval of Optimum Analytical and Consulting, LLC.

Use of the NVLAP and AIHA Logo in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

Detection Limit  $<1\%$ , Reporting Limits: CVES =  $1\%$ , 400 Point Count =  $.25\%$ , 1000 Point Count =  $0.1\%$ ; Present or Absent are observations made during a qualitative analysis.

This report is considered preliminary until signed by both the Laboratory Analyst and Laboratory Director or Supervisor. If you have any questions regarding this report, please do not hesitate to contact us.

Jamie L. Noel  
Laboratory Director

Kristina Scaviola  
Laboratory Supervisor



# OPTIMUM

Analytical and Consulting, LLC

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

## BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-600/M4-82-020, EPA-600/ R-93-116) NVLAP Lab Code: 101433-0

**CLIENT:** Axiom Partners, Inc.  
**ADDRESS:** 545 Salem St.  
**CITY / STATE / ZIP:** Wakefield MA 01880  
**CONTACT:** Steve Minassian  
**DESCRIPTION:** PLM Analysis  
**LOCATION:** Consentino Middle School; Haverhill, MA

**ORDER #:** 1616568  
**PROJECT #:** 01288.004  
**DATE COLLECTED:** 06/22/2016  
**COLLECTED BY:** HR Forgione  
**DATE RECEIVED:** 06/22/2016  
**ANALYSIS DATE:** 06/22/2016  
**REPORT DATE:** 06/22/2016  
**ANALYST:** Jamie Noel

### REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
1616568-001 062216-45-01A	Library Behind Bookshelves 4" Brown Cove Base,	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
<b>Total % Asbestos:</b>			No Asbestos Detected		<b>Total % Non-Asbestos:</b> 100.0%	
1616568-002 062216-45-01B	Library Behind Bookshelves 4" Brown Cove Base,	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
<b>Total % Asbestos:</b>			No Asbestos Detected		<b>Total % Non-Asbestos:</b> 100.0%	
1616568-003 062216-45-02A	Library Behind Bookshelves 4" Brown Cove Base Adhesive, Brown Note: Contaminated by white powder/fibrous material attached to cove base adhesive.	LAYER 1 100%	Chrysotile	2%	Cellulose Fiber Binder/Filler	1% 97%
<b>Total % Asbestos:</b>			2.0%		<b>Total % Non-Asbestos:</b> 98.0%	
1616568-004 062216-45-02B	Library Behind Bookshelves 4" Brown Cove Base Adhesive, Brown Note: Positive Stop	LAYER 1 100%				
1616568-005 062216-45-03A	Library Exposed Walls 4" Dark Brown Cove Base,	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
<b>Total % Asbestos:</b>			No Asbestos Detected		<b>Total % Non-Asbestos:</b> 100.0%	
1616568-006 062216-45-03B	Library Exposed Walls 4" Dark Brown Cove Base,	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
<b>Total % Asbestos:</b>			No Asbestos Detected		<b>Total % Non-Asbestos:</b> 100.0%	
1616568-007 062216-45-04A	Library Exposed Walls 4" Dark Brown Cove Base Adhesive, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
<b>Total % Asbestos:</b>			No Asbestos Detected		<b>Total % Non-Asbestos:</b> 100.0%	
1616568-008 062216-45-04B	Library Exposed Walls 4" Dark Brown Cove Base Adhesive, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
<b>Total % Asbestos:</b>			No Asbestos Detected		<b>Total % Non-Asbestos:</b> 100.0%	



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**CONTACT:** Steve Minassian  
**DESCRIPTION:** PLM Analysis  
**LOCATION:** Consentino Middle School; Haverhill, MA

## BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-600/M4-82-020, EPA-600/ R-93-116) NVLAP Lab Code: 101433-0

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**REPORT DATE:** 06/22/2016  
**ANALYST:** Jamie Noel

### REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
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**Analyst  
Signatory:**

Jamie Noel

**NVLAP**<sup>®</sup>  
Lab Code: 101433-0



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OPTIMUM ANALYTICAL AND CONSULTING, LLC

1616568

### Chain of Custody

Analysis & TAT:	4-6 Hour	24 Hour	48 Hour	Standard (3-5)	Standard (6-10)	Comments (please indicate other test specific information here):
PLM	<input checked="" type="checkbox"/>					POSITIVE STOP
PCM						
Mold	Not Available					
Lead	Not Available					
Other: (TEM, PCB, etc)	Not Available					
Sampler: <i>HR FORGIONE</i>	Email: <i>hforigione@axiomenvi.com</i> <i>sminassian@axiomenvi.com</i>				Positive Stop Analysis	<input checked="" type="radio"/> yes <input type="radio"/> No
Project Manager: <i>SE MINASSIAN</i>	Sample Location: <i>HAVERHILL N/A</i>				Phone Number: <i>781-258-3311</i>	
Project Information:	<i>CONSENTINO MIDDLE SCHOOL</i> <i>AXIOM PROJECT 01288.004</i>				Company Name and Address:	<i>AXIOM PARTNERS</i> <i>545 SALEM ST</i> <i>WAKEFIELD MA 01880</i>
Sample Number	Description and location					Time and Temperature at collection:
<i>062216-45-01A</i>	<i>4" BROWN COVE BASE - LIBRARY BEHIND BOOKSHELVES</i>					
<i>01B</i>	<i>4" BROWN COVE BASE -</i>					
<i>02A</i>	<i>4" BROWN COVE BASE - ADHESIVE</i>					
<i>02B</i>	<i>4" BROWN COVE BASE - ADHESIVE</i>					
<i>03A</i>	<i>4" DARK BROWN COVE - LIBRARY EXPOSED BASE WALLS</i>					
<i>03B</i>	<i>4" DARK BROWN COVE - BASE</i>					
<i>04A</i>	<i>4" DARK BROWN COVE - BASE ADHESIVE</i>					
<i>04B</i>	<i>4" DARK BROWN COVE - BASE ADHESIVE</i>					

Relinquished by: *HR Forgione* Date *06-22-16* Time *1507*

Received by: *MBN* Date *06/22/16* Time *15:00*