

**REPORT  
FOR  
HAZARDOUS MATERIALS IDENTIFICATION STUDY  
AT  
SOMERSET MIDDLE SCHOOL  
SOMERSET, MA**

**PROJECT NUMBER:  
219 409.00**

**SURVEY DATES:  
July 18, 22, 2019 – August 26-27, 2019  
July 15, 2020**

**STUDY CONDUCTED BY:  
UNIVERSAL ENVIRONMENTAL CONSULTANTS  
12 BREWSTER ROAD  
FRAMINGHAM, MASSACHUSETTS**

July 20, 2020

Mr. Troy Randall  
Ai3 Architects LLC  
526 Boston Post Road  
Wayland, MA 01778

Reference: **Hazardous Materials Identification Survey**  
**Somerset Middle School, Somerset, MA**

Dear Mr. Randall:

Thank you for the opportunity for Universal Environmental Consultants (UEC) to provide professional services.

Enclosed please find the report for the Identification Survey for Hazardous Materials at Somerset Middle School, Somerset, MA.

Please do not hesitate to contact me at (508) 628-5486 if you have any questions.

Very truly yours,

Universal Environmental Consultants



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Ammar Dieb  
President

UEC:\219 409.00\Report.DOC

Enclosure

## 1.0 INTRODUCTION:

Universal Environmental Consultants (UEC) has been providing comprehensive asbestos services since 2001 and has completed projects throughout New England. We have completed projects for a variety of clients including commercial, industrial, municipal, and public and private schools. We maintain appropriate asbestos licenses and staff with a minimum of thirty years of experience.

UEC was contracted by Ai3 Architects LLC to conduct the following services at the Somerset Middle School, Somerset, Massachusetts:

- Asbestos Containing Materials (ACM) inspection and sampling.
- Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures inspection.
- PCB's Caulking inspection.
- Lead Based Paint (LBP) inspection.
- Airborne Mold sampling.
- Mercury in Rubber Flooring inspection and sampling.
- Radon sampling.

The scope of work included the inspection of accessible ACM, collection of bulk samples, determination, and quantities of types of ACM found and cost estimates for remediation. A comprehensive survey including roofing and destructive sampling per the Environmental Protection Agency (EPA) NESHAP regulation would be required prior to any renovation or demolition activities.

Bulk samples analyses for asbestos were performed using the standard Polarized Light Microscopy (PLM) Method in accordance with EPA standard. Bulk samples were collected by Massachusetts licensed asbestos inspectors Mr. Leonard J. Busa (AI-030673) and Mr. George Bezreh. Samples analyzed by Massachusetts licensed laboratories Asbestos Identification Laboratory, Woburn, MA and AmeriSci, Weymouth, MA.

Airborne mold samples were analyzed by an EPA trained laboratory EMSL, Woburn, MA.

Radon samples were analyzed by an EPA licensed laboratory AccuStar, Ward Hill, MA.

Samples results are attached.

## 2.0 FINDINGS:

### **Asbestos Containing Materials (ACM):**

The regulations for asbestos inspection are based on representative sampling. It would be impractical and costly to sample all materials in all areas. Therefore, representative samples of each homogenous area were collected and analyzed or assumed.

All suspect materials were grouped into homogenous areas. By definition, a homogenous area is one in which the materials are evenly mixed and similar in appearance and texture throughout. A homogeneous area shall be determined to contain asbestos based on findings that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than 1 percent in accordance with EPA regulations. Per the Department of Environmental Protection (DEP) any amount of asbestos found must be disposed as asbestos.

No additional suspect and accessible ACM were found during this survey. However, hidden ACM may be found during the renovation and demolition activities.

### **Number of Samples Collected:**

*July-August 2019*

Fifty-five (55) bulk samples were collected from materials suspected of containing asbestos, including:

## **Type and Location of Suspect Material**

1. Grey sink coating at teacher's room
2. Grey sink coating at classroom 3
3. Interior window framing caulking in double assembly door at hallway
4. Interior glazing caulking for window in wood door at stairs
5. Interior window glazing caulking in double assembly door at hallway
6. Interior vertical caulking between steel column and CMU at hallway by music
7. Interior vertical caulking between steel column and CMU at classroom 41
8. Black glue in fiberglass insulated duct at boiler room
9. Black glue in fiberglass insulated pipe at boy's room pipe chase
10. Black glue in fiberglass insulated duct at kitchen storage
11. Brown 9 x 9" vinyl floor tile at gymnasium storage
12. Mastic for brown 9 x 9" vinyl floor tile at gymnasium storage
13. Ceiling plaster at auditorium
14. Ceiling plaster at lecture hall
15. Black glue in fiberglass insulated pipe at girl's room by gymnasium
16. Hard joint insulation off fiberglass insulated pipe at boiler room
17. Boiler insulation
18. Boiler breeching insulation
19. Debris on top of ceiling plaster at lecture hall
20. Blue 12" x 12" vinyl floor tile at hall to classroom 51
21. Mastic for blue 12" x 12" vinyl floor tile at hall to classroom 51
22. Blue 12" x 12" vinyl floor tile at hall to classroom 60
23. Mastic for blue 12" x 12" vinyl floor tile at hall to classroom 60
24. Blue 12" x 12" vinyl floor tile at hall to classroom 62
25. Mastic for blue 12" x 12" vinyl floor tile at hall to classroom 62
26. While leveler for blue 12" x 12" vinyl floor tile at hall to classroom 62
27. Exterior window framing caulking
28. Exterior window framing caulking
29. Exterior window framing caulking
30. Exterior soft white window glazing caulking
31. Exterior soft grey window glazing caulking
32. Exterior door framing caulking
33. Exterior unit vent grille caulking
34. Exterior window framing caulking
35. Exterior window framing caulking
36. Exterior window framing caulking
37. Exterior window framing caulking
38. Exterior door framing caulking
39. Hard joint insulation off fiberglass insulated pipe above ceiling
40. Wood fire door at hall to girl's room
41. 2'x 4' Suspended acoustical ceiling tile
42. Wall plaster at classroom 59
43. Wall plaster at faculty dining
44. Ceiling plaster at men's room
45. 2'x 4' Suspended acoustical ceiling tile
46. 2'x 4' Suspended acoustical ceiling tile
47. 2'x 4' Suspended acoustical ceiling tile
48. Debris on floor at girl's locker room loft mechanical room
49. Black glue in fiberglass insulated duct at girl's locker room loft mechanical room
50. Glue tab for fiberglass insulated duct at girl's locker room loft mechanical room
51. Glue tab fiberglass insulated duct at girl's locker room loft mechanical room
52. Mastic for 9" x 9" vinyl floor tile at girl's locker exit hall
53. Wall plaster at conference room
54. Interior window glazing caulking at main office

55. Ceiling plaster at incinerator room

**Sample Results:**

**Type and Location of Suspect Material**

**Sample Result**

1. Grey sink coating at teacher's room	5% Asbestos
2. Grey sink coating at classroom 3	5% Asbestos
3. Interior window framing caulking in double assembly door at hallway	2% Asbestos
4. Interior glazing caulking for window in wood door at stairs	2% Asbestos
5. Interior window glazing caulking in double assembly door at hallway	2% Asbestos
6. Interior vertical caulking between steel column and CMU at hallway by music	3% Asbestos
7. Interior vertical caulking between steel column and CMU at classroom 41	2% Asbestos
8. Black glue in fiberglass insulated duct at boiler room	No Asbestos Detected
9. Black glue in fiberglass insulated pipe at boy's room pipe chase	No Asbestos Detected
10. Black glue in fiberglass insulated duct at kitchen storage	No Asbestos Detected
11. Brown 9 x 9" vinyl floor tile at gymnasium storage	2% Asbestos
12. Mastic for brown 9 x 9" vinyl floor tile at gymnasium storage	No Asbestos Detected
13. Ceiling plaster at auditorium	No Asbestos Detected
14. Ceiling plaster at lecture hall	No Asbestos Detected
15. Black glue in fiberglass insulated pipe at girl's room by gymnasium	No Asbestos Detected
16. Hard joint insulation off fiberglass insulated pipe at boiler room	<1% Asbestos
17. Boiler insulation	50% Asbestos
18. Boiler breeching insulation	60% Asbestos
19. Debris on top of ceiling plaster at lecture hall	60% Asbestos
20. Blue 12" x 12" vinyl floor tile at hall to classroom 51	No Asbestos Detected
21. Mastic for blue 12" x 12" vinyl floor tile at hall to classroom 51	No Asbestos Detected
22. Blue 12" x 12" vinyl floor tile at hall to classroom 60	No Asbestos Detected
23. Mastic for blue 12" x 12" vinyl floor tile at hall to classroom 60	No Asbestos Detected
24. Blue 12" x 12" vinyl floor tile at hall to classroom 62	No Asbestos Detected
25. Mastic for blue 12" x 12" vinyl floor tile at hall to classroom 62	No Asbestos Detected
26. While leveler for blue 12" x 12" vinyl floor tile at hall to classroom 62	No Asbestos Detected
27. Exterior window framing caulking	2% Asbestos
28. Exterior window framing caulking	3% Asbestos
29. Exterior window framing caulking	2% Asbestos
30. Exterior soft white window glazing caulking	10% Asbestos
31. Exterior soft grey window glazing caulking	No Asbestos Detected
32. Exterior door framing caulking	3% Asbestos
33. Exterior unit vent grille caulking	3% Asbestos
34. Exterior window framing caulking	2% Asbestos
35. Exterior window framing caulking	3% Asbestos
36. Exterior window framing caulking	No Asbestos Detected
37. Exterior window framing caulking	No Asbestos Detected
38. Exterior door framing caulking	No Asbestos Detected
39. Hard joint insulation off fiberglass insulated pipe above ceiling	No Asbestos Detected
40. Wood fire door at hall to girl's room	35% Asbestos
41. 2'x 4' Suspended acoustical ceiling tile	No Asbestos Detected
42. Wall plaster at classroom 59	No Asbestos Detected
43. Wall plaster at faculty dining	No Asbestos Detected
44. Ceiling plaster at men's room	No Asbestos Detected
45. 2'x 4' Suspended acoustical ceiling tile	No Asbestos Detected
46. 2'x 4' Suspended acoustical ceiling tile	No Asbestos Detected
47. 2'x 4' Suspended acoustical ceiling tile	No Asbestos Detected
48. Debris on floor at girl's locker room loft mechanical room	70% Asbestos
49. Black glue in fiberglass insulated duct at girl's locker room loft mechanical room	No Asbestos Detected
50. Glue tab for fiberglass insulated duct at girl's locker room loft mechanical room	15% Asbestos
51. Glue tab fiberglass insulated duct at girl's locker room loft mechanical room	15% Asbestos

52. Mastic for 9" x 9" vinyl floor tile at girl's locker exit hall	No Asbestos Detected
53. Wall plaster at conference room	No Asbestos Detected
54. Interior window glazing caulking at main office	No Asbestos Detected
55. Ceiling plaster at incinerator room	No Asbestos Detected

July 15, 2020

Fourteen (14) bulk samples were collected from materials suspected of containing asbestos, including:

**Type and Location of Suspect Material**

1. Exterior building flashing/mastic
2. Exterior building mastic
3. Exterior building insulation
4. Exterior building mastic
5. Exterior building mastic
6. Exterior building flashing
7. Exterior building mastic
8. Exterior building insulation
9. Exterior building flashing/mastic
10. Exterior building flashing/mastic
11. Exterior building mastic
12. Exterior building insulation
13. Exterior building mastic
14. Exterior building flashing/mastic

**Sample Results:**

**Type and Location of Suspect Material**

**Sample Result**

1. Exterior building flashing/mastic	No Asbestos Detected
2. Exterior building mastic	No Asbestos Detected
3. Exterior building insulation	No Asbestos Detected
4. Exterior building mastic	No Asbestos Detected
5. Exterior building mastic	No Asbestos Detected
6. Exterior building flashing	No Asbestos Detected
7. Exterior building mastic	No Asbestos Detected
8. Exterior building insulation	No Asbestos Detected
9. Exterior building flashing/mastic	No Asbestos Detected
10. Exterior building flashing/mastic	No Asbestos Detected
11. Exterior building mastic	No Asbestos Detected
12. Exterior building insulation	No Asbestos Detected
13. Exterior building mastic	No Asbestos Detected
14. Exterior building flashing/mastic	No Asbestos Detected

**Observations and Conclusions:**

The condition of ACM is very important. ACM in good condition does not present a health issue unless it is disturbed. Therefore, it is not necessary to remediate ACM in good condition unless it will be disturbed through renovation, demolition, or other activity.

Refer to the AHERA Management Plan for condition of ACM.

1. Mastic for tan cove base was previously found to contain asbestos.
2. Building caulking was previously found to contain asbestos.
3. Dark tan 12" x 12" vinyl floor tile was previously found to contain asbestos.
4. Boiler insulation was found to contain asbestos.
5. Incinerator exhaust stack insulation was previously found to contain asbestos.
6. Flexible connector was previously found to contain asbestos.

7. Hard joint insulation was previously found to contain asbestos.
8. Brown 9" x 9" vinyl floor tile was previously found to contain asbestos.
9. Mastic for brown 9" x 9" vinyl floor tile was previously found to contain asbestos.
10. Tan 9" x 9" vinyl floor tile was previously found to contain asbestos.
11. Mastic for tan 9" x 9" vinyl floor tile was previously found to contain asbestos.
12. Grey sink coating was found to contain asbestos.
13. Interior window framing caulking in double assembly door was found to contain asbestos.
14. Interior glazing caulking for window in wood door was found to contain asbestos.
15. Interior vertical caulking between steel column and CMU was found to contain asbestos.
16. Hard joint insulation off fiberglass insulated pipe was found to contain <1% Asbestos. Per DEP the material shall be disposed as asbestos.
17. Exterior window framing caulking was found to contain asbestos.
18. Debris on top of ceiling plaster at lecture hall was found to contain asbestos.
19. Exterior soft white window glazing caulking was found to contain asbestos.
20. Exterior door framing caulking was found to contain asbestos.
21. Exterior unit vent grille caulking was found to contain asbestos.
22. Wood fire door was found to contain asbestos.
23. Debris on floor at girl's locker room loft mechanical room was found to contain asbestos.
24. Glue tab for fiberglass insulated duct was found to contain asbestos.
25. Insulation/rope inside boilers were assumed to contain asbestos.
26. Insulation/rope inside incinerator were assumed to contain asbestos.
27. Stage fire curtain was assumed to contain asbestos.
28. Flexible connectors were assumed to contain asbestos.
29. Insulation/glue inside walk-in refrigerators were assumed to contain asbestos.
30. Glue for 1' x 1' ceiling tile was assumed to contain asbestos.
31. Paper/glue under hardwood floor were assumed to contain asbestos.
32. Chalkboard glue was assumed to contain asbestos.
33. Underground sewer pipes were assumed to contain asbestos.
34. Roofing material was assumed to contain asbestos.
35. All other suspect materials were found not to contain asbestos. Hidden ACM may be found during renovation and demolition activities.

### **Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures:**

#### ***Observations and Conclusions***

Visual inspection of various equipments such as light fixtures, thermostats, exit signs and switches was performed for the presence of PCB's and mercury. Ballasts in light fixtures were assumed not to contain PCB's since there were labels indicating that "No PCB's" was found. Tubes in light fixtures, thermostats, signs, and switches were assumed to contain mercury. It would be very costly to test those equipments and dismantling would be required to access. Therefore, the above mentioned equipments should be disposed in an EPA approved landfill as part of the demolition project.

#### **PCB's in Caulking:**

PCB's are manmade chemicals that were widely produced and distributed across the country from the 1950s to 1977 until the production of PCB's was banned by the US Environmental Protection Agency (EPA) law which became effective in 1978. PCB's are a class of chemicals made up of more than 200 different compounds. PCB's are non-flammable, stable, and good insulators so they were widely used in a variety of products including electrical transformers and capacitors, cable and wire coverings, sealants and caulking, and household products such as television sets and fluorescent light fixtures. Because of their chemical properties, PCB's are not very soluble in water and they do not break down easily in the environment. PCB's also do not readily evaporate into air but tend to remain as solids or thick liquids. Even though PCB's have not been produced or used in the country for more than 30 years, they are still present in the environment in the air, soil, and water and in our food. EPA requires that all construction waste including caulking be disposed as PCB's if PCB's level exceed 50 mg/kg (ppm). An abatement plan might also be required as part of renovations.

#### ***Observations and Conclusions:***

Caulking was assumed to contain PCB's.

**Lead Based Paint (LBP):****Observations and Conclusions**

LBP was assumed to exit on painted surfaces. A school is not considered a regulated facility. All LBP activities performed, including waste disposal, should be in accordance with applicable Federal, State, or local laws, ordinances, codes, or regulations governing evaluation and hazard reduction. In the event of discrepancies, the most protective requirements prevail. These requirements can be found in OSHA 29 CFR 1926-Construction Industry Standards, 29 CFR 1926.62-Construction Industry Lead Standards, 29 CFR 1910.1200-Hazards Communication, 40 CFR 261-EPA Regulations. According to OSHA, any amount of LBP triggers compliance.

**Airborne Mold:**

Airborne mold testing was performed utilizing Zefon International Incorporated’s Air-O-Cell® sampling device following all manufacturer supplied recommended sampling procedures.

The Air-O-Cell® is a direct read total particulate air sampling device. It works using the inertial impaction principle similar to other spore trap devices. It is designed for the rapid collection and analysis of airborne particulate including bioaerosols. The particulate includes fibers (e.g. asbestos, fiberglass, cellulose, clothing fibers) opaque particles (e.g. fly ash, combustion particles, copy toner, oil droplets, paint), and bioaerosols (e.g. mold spores, pollen, insect parts, skin cell fragments).<sup>1</sup>

The method involves drawing a known quantity of air through a sterile sampling cassette. Subsequent to sampling, the cassette is sealed and transferred to a microbiology laboratory under chain of custody protocol for microscopic analysis. This method counts both viable and nonviable mold spores.

**AIRBORNE MOLD and PARTICULATE**

Lab ID #	Location	Total Mold Counts/M <sup>3</sup>	Pollen	Insect Fragment	Hyphal Fragments
131905297-0001	Room 34	650	7	ND	ND
131905297-0002	Room 32	720	ND	ND	ND
131905297-0003	Room 15	1,180	ND	ND	ND
131905297-0004	Room 11	3,010	ND	ND	ND
131905297-0005	Room 7	790	ND	ND	ND
131905297-0006	Outside	16,427	ND	ND	ND

**AIRBORNE MOLD and PARTICULATE  
(Subjective Scales)**

Lab ID #	Location	Skin Fragment Density (SFD)	Fibrous Particulates (FP)	Total Background Particulate (TBP)
131905297-0001	Room 34	1	1	1
131905297-0002	Room 32	1	1	1
131905297-0003	Room 15	1	1	1
131905297-0004	Room 11	1	1	1
131905297-0005	Room 7	1	1	1
131905297-0006	Outside	1	1	1

<sup>1</sup> Zefon International Inc. <www.zefon.com>



**Legend:**

ND - Not Detected

**Observations:**

There are currently no guidelines or standards promulgated by a government agency or widely recognized scientific organization for the interpretation of airborne mold spore levels. The most commonly employed tool used to assess if mold growth is occurring in a structure is to compare quantities and species of mold outdoors to indoor. If there were more mold indoor, and/or if species were present indoor which were not present outdoors, then growth is occurring, and remediation is recommended.

Indoor airborne mold spore concentrations were found to be much lower than the outside sample. Based on comparisons with historical data from projects of similar type, building utilization, geographic location and season, the indoor airborne levels are considered low. Indoor mold spore counts in the summer are typically in the 2,500-6,500-spores/cubic meter range.

Pollen, insect fragments and Hyphal fragments were either not present or low in the samples. Hyphal fragment is a non-reproductive part of the mold.

Total background particulate on all samples was assessed as "1" on a scale of 1-5 where 1 is low and 5 is high. Skin fragment density on all samples was assessed as "1" on a scale of 1-4 where 1 is low and 4 is high. The total background levels are measured to determine airborne dust not related to airborne mold. Skin fragments are measured to determine proper housing cleaning.

**Mercury in Rubber Flooring:**

**Observations and Conclusions:**

No rubber flooring exists in the school.

**Radon:**

**Number of Samples Collected**

Five (5) air samples were collected at the following locations:

**Location of Sample**

- 1. Ground floor room 34
- 2. Ground floor room 32
- 3. Ground floor room 15
- 4. Ground floor room 11
- 5. Ground floor room 4

**Location of Sample**

- 1. Ground floor room 34
- 2. Ground floor room 32
- 3. Ground floor room 15
- 4. Ground floor room 11
- 5. Ground floor room 4

**Sample Result**

- <0.4 pCi\L
- <0.4 pCi\L
- <0.4 pCi\L
- <0.4 pCi\L
- <0.4 pCi\L

**Observations and Conclusions:**

The measured radon concentrations of the samples were found to be much lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L). No further action is required based on the results.

**3.0 COST ESTIMATES:**

The cost includes removal and disposal of all accessible ACM, other hazardous material, and an allowance for removal of inaccessible or hidden ACM that may be found during renovation or demolition project.

Location	Material	Approximate Quantity	Cost Estimate (\$)
Throughout	9" x 9" Vinyl Floor Tile and Mastic	68,000 SF	238,000.00
	Interior Windows	100 Total	20,000.00
	Interior Doors with Windows	80 Total	12,000.00
	Interior Caulking on Doors	350 LF	3,500.00
	Sinks	21 Total	4,200.00
	Flexible Connectors	10 Total	1,000.00
	Wood Fire Doors	24 Total	4,800.00
	Vertical Caulking	5,000 LF	50,000.00
	Hard Joint Insulation	1,800 Total	36,000.00
	Miscellaneous Hazardous Materials	Unknown	25,000.00
	Miscellaneous Hidden ACM	Unknown	25,000.00
	Tubes in Light Fixtures	Unknown	30,000.00
	Blackboards	100 Total	30,000.00
	Stage	Fire Curtain	2 Total
Kitchen	Walk-In Refrigerators	2 Total	18,000.00
Various Locations	Glue Tab on Fiberglass Insulated Duct	600 SF	6,000.00
	1' x 1' Acoustical Ceiling Tile	800 SF	4,000.00
Incinerator Room	Incinerator	1 Total	9,500.00
Gymnasium	Hardwood Floor/Paper/Mastic	9,000 SF	74,000.00
Lecture Hall	Debris above Ceiling Tiles	2,200 SF	11,000.00
Boiler Room	Boiler Insulation	750 SF	15,000.00
	Tank Insulation	220 SF	5,500.00
	Duct Insulation	800 SF	16,000.00
	Glue Tabs on Fiberglass Insulated Duct	450 SF	4,500.00
	Flexible Connectors	5 Total	1,000.00
	Boilers	3 Total	27,000.00
Exterior	Old Windows	300 Total	75,000.00
	Doors	30 Total	6,000.00
	Unit Vent Grille	40 Total	4,000.00
	Transite Sewer Pipes	Unknown <sup>1</sup>	50,000.00
Estimated costs for NESHAP Inspection, Destructive and Testing Services			17,000.00
Estimated costs for Design, Construction Monitoring and Air Sampling Services			115,000.00
<b>TOTAL:</b>			<b>\$ 950,000.00</b>

<sup>1</sup>: Part of total demolition.

#### 4.0 DESCRIPTION OF SURVEY METHODS AND LABORATORY ANALYSES:

##### Asbestos:

Asbestos samples were collected using a method that prevents fiber release. Homogeneous sample areas were determined by criteria outlined in EPA document 560/5-85-030a. Bulk material samples were analyzed using PLM and dispersion staining techniques with EPA method 600/M4-82-020.

**Airborne Mold:**

The samples were analyzed by an EPA approved laboratory EMSL, Woburn, MA.

**Radon:**

Radon samples were analyzed by an EPA licensed laboratory AccuStar, Ward Hill, MA.

Inspected By:

A handwritten signature in cursive script that reads "Leonard J. Busa". The signature is written in black ink and is positioned above a horizontal line.

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Leonard J. Busa  
Asbestos Inspector  
(AI-030673)

## **5.0 LIMITATIONS AND CONDITIONS:**

This report has been completed based on visual and physical observations made and information available at the time of the site visits, as well as an interview with the Owner's representatives. This report is intended to be used as a summary of available information on existing conditions with conclusions based on a reasonable and knowledgeable review of evidence found in accordance with normally accepted industry standards, state and federal protocols, and within the scope and budget established by the client. Any additional data obtained by further review must be reviewed by UEC and the conclusions presented herein may be modified accordingly.

This report and attachments, prepared for the exclusive use of Owner for use in an environmental evaluation of the subject site, are an integral part of the inspections and opinions should not be formulated without reading the report in its entirety. No part of this report may be altered, used, copied, or relied upon without prior written permission from UEC, except that this report may be conveyed in its entirety to parties associated with Owner for this subject study.



## Asbestos Identification Laboratory

165 New Boston St., Ste 227  
Woburn, MA 01801  
781-932-9600

Web: [www.asbestosidentificationlab.com](http://www.asbestosidentificationlab.com)  
Email: [mikemanning@asbestosidentificationlab.com](mailto:mikemanning@asbestosidentificationlab.com)

Batch: 46012



August 29, 2019

Ammar Dieb  
Universal Environmental Consultants  
12 Brewster Road  
Framingham, MA 01702

**Project Name:** *Somerset Middle School, Somerset, MA*  
**Project Number:**  
**Date Sampled:** 2019-08-27  
**Work Received:** 2019-08-28  
**Work Analyzed:** 2019-08-28

**Analysis Method:** BULK PLM ANALYSIS EPA/600/R-93/116

Dear Ammar Dieb,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Ammar Dieb for your business.

Michael Manning  
Owner/Director

Ammar Dieb  
 Universal Environmental Consultants  
 12 Brewster Road  
 Framingham, MA 01702

**Project Name:** Somerset Middle School, Somerset, MA  
**Project Number:**  
**Date Sampled:** 2019-08-27  
**Work Received:** 2019-08-28  
**Work Analyzed:** 2019-08-28

**Analysis Method:** BULK PLM ANALYSIS EPA/600/R-93/116

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1 510566	Grey Sink DP	Teacher's Rm Addition (ADD)	gray	Non-Fibrous 95	Detected Chrysotile 5
2 510567	Grey Sink DP	C'rm-3	gray	Non-Fibrous 95	Detected Chrysotile 5
3 510568	Interior Win FR @ Hall Door Ass'y	By C'rm 11	gray	Non-Fibrous 98	Detected Chrysotile 2
4 510569	Glaze for Win in Wood Door	Stairs by C'rm 40 Up to Upper Lecture Hall	multi	Non-Fibrous 98	Detected Chrysotile 2
5 510570	Int Win GL? for Win in Hall Door Ass'y	Outside Cafe	multi	Non-Fibrous 98	Detected Chrysotile 2
6 510571	Verticle Caulk Betwix Steel Column & CMU	Hall by Music	multi	Non-Fibrous 97	Detected Chrysotile 3
7 510572	Vert Caulk Betwix Steel Column & CMU	C'rm 41	multi	Non-Fibrous 98	Detected Chrysotile 2
8 510573	Black in FG DI	Boiler Rm	multi	Fiberglass 20 Non-Fibrous 80	None Detected
9 510574	Black in FG PI	Boy's Pipe Chase by C'rm-13 PI	multi	Fiberglass 20 Cellulose 10 Non-Fibrous 70	None Detected
10 510575	Black in FG DI	Kitchen Storage	multi	Cellulose 10 Non-Fibrous 90	None Detected
11 510576	9" Brown VT	Gym Storage	brown	Non-Fibrous 98	Detected Chrysotile 2
12 510577	Mastic #1	Boiler Rm	black	Non-Fibrous 100	None Detected
13 510578	Ceiling Plaster (CP)	Auditorium	white	Fiberglass 2 Non-Fibrous 98	None Detected
14 510579	CP	Lecture Hall	white	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
15 510580	Blak in FG PI	Girl's Rm by Gym (Pipe Chase)	multi	Fiberglass 30 Non-Fibrous 70	None Detected
16 510581	E Off FG	Boiler Rm	gray	Mineral Wool 50 Non-Fibrous 50	Detected Chrysotile < 1
17 510582	Boiler Insul	Boiler Rm	white	Non-Fibrous 50	Detected Chrysotile 20 Amosite 30
18 510583	Boiler Breech	Boiler Rm	gray	Non-Fibrous 40	Detected Chrysotile 60
19 510584	E Debris (Roof Drain)	Top of CP (Lecture Hall)	gray	Non-Fibrous 40	Detected Chrysotile 60
20 510585	12" Blue VT	By Hall Doorr to C'rm 51 (ADD)	blue	Non-Fibrous 100	None Detected
21 510586	Mastic #20	Hall Door to C'rm 51 (ADD)	yellow	Non-Fibrous 100	None Detected
22 510587	12" Blue VT	Hall by C'rm 60 (ADD)	blue	Non-Fibrous 100	None Detected
23 510588	Mastic #22	Hall by C'rm 60 (ADD)	yellow	Non-Fibrous 100	None Detected
24 510589	12" Blue VT	Hall by C'rm 62 (ADD)	blue	Non-Fibrous 100	None Detected
25 510590	Mastic #24	Hall by C'rm 62 (ADD)	yellow	Non-Fibrous 100	None Detected
26 510591	White Leveler #24	Hall by C'rm 62 (ADD)	white	Non-Fibrous 100	None Detected
27 510592	Win FR Caulk	Small Courtyard, Exterior	multi	Non-Fibrous 98	Detected Chrysotile 2
28 510593	Win FR Caulk	Large C'tyd, Exterior	multi	Non-Fibrous 97	Detected Chrysotile 3
29 510594	Win FR @ Ground Level	Large C'tyd, Exterior	multi	Non-Fibrous 98	Detected Chrysotile 2
30 510595	Soft White Glaze for Window	Large C'tyd, Exterior	multi	Non-Fibrous 90	Detected Chrysotile 10
31 510596	Soft Grey Glaze for Window	By Door W2, Exterior	gray	Non-Fibrous 100	None Detected
32 510597	Door FR Caulk	Door W2, Exterior	multi	Non-Fibrous 97	Detected Chrysotile 3

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
33 510598	Grilled Caulk	Main Office Wing, Exterior	multi	Non-Fibrous 97	Detected Chrysotile 3
34 510599	Win FR Caulk	By Door N4, Exterior	multi	Non-Fibrous 98	Detected Chrysotile 2
35 510600	Win FR Caulk	Main Office Winer, Exterior	multi	Non-Fibrous 97	Detected Chrysotile 3
36 510601	Win FR	Window #55 (ADD), Exteiror	gray	Non-Fibrous 100	None Detected
37 510602	Win FR	Win #54 (ADD), Exterior	gray	Non-Fibrous 100	None Detected
38 510603	Door FR	Door E-2 (ADD), Exerior	gray	Non-Fibrous 100	None Detected
39 510604	E Off FG	(ADD) AC y 78	gray	Mineral Wool 50 Non-Fibrous 50	None Detected
40 510605	Oversized Wood Fire Door	(ADD) Hall by Girl's Rm	white	Non-Fibrous 65	Detected Chrysotile 30 Amosite 5
41 510606	2x4 FG SAT	(ADD) Random	yellow	Fiberglass 95 Non-Fibrous 5	None Detected
42 510607	Wall Plaster (WP)	(ADD) C'rm 59	multi	Non-Fibrous 100	None Detected
43 510608	WP	Faculty Dining	gray	Fiberglass 2 Cellulose 2 Non-Fibrous 96	None Detected
44 510609	CP	Men's Rm by 41	white	Cellulose 2 Non-Fibrous 98	None Detected
45 510610	2x4 SAT (Orig w/ Side Fissures?)	Hall by C'rm 6 (Pink?)	brown	Mineral Wool 70 Cellulose 20 Non-Fibrous 10	None Detected
46 510611	2x4 SAT (Orig w/ Side Fissures?)	Conference Rm (Brown?)	brown	Mineral Wool 70 Cellulose 20 Non-Fibrous 10	None Detected
47 510612	2x4 SAT (Orig w/ Side Fissures?)	C'r-11 (Brown)	brown	Mineral Wool 70 Cellulose 20 Non-Fibrous 10	None Detected
48 510613	TSI Debris on Floor	Girl's Locker Loft Mech Rm	multi	Mineral Wool 20 Non-Fibrous 10	Detected Chrysotile 70
49 510614	Black in FG DI	Girl's Locker Loft Mech Rm	multi	Fiberglass 30 Non-Fibrous 70	None Detected
50 510615	Assoc Glue Tab #49	Girl's Locker Loft Mech Rm	brown	Non-Fibrous 85	Detected Chrysotile 15



FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
51 510616	Glue Tab for FG DI	Girl's Locker Loft Mech Rm	brown	Non-Fibrous 85	Detected Chrysotile 15
52 510617	Mastic for 9" VT	Girl's Locker Exit Hall	black	Non-Fibrous 100	None Detected
53 510618	WP	Conference Rm	white	Non-Fibrous 100	None Detected
54 510619	Int Win GL	Mai Office/Principal	multi	Non-Fibrous 100	None Detected
55 510620	CP	Incinerator Rm	gray	Cellulose 3 Non-Fibrous 97	None Detected

Thursday 29 August  
Analyzed by:

*Erik Longas*

End of Report  
Batch: 46012

Page 4 of 4

# CHAIN OF CUSTODY

<b>Universal Environmental Consultants</b>
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Town/City: Somerset, MA Building Name: Somerset Middle School

Sample	Result	Description of Material	Sample Location
1		grey sink dp	Teacher's Rm ADDITION (ADD)
2		grey sink dp	dm-3
3		interior window & hall door ass'y	by dm 11
4		glaze for window wood door	stairs by dm 40 up to sport lecture Hall
5		int window gl? for window in hall door ass'y	outside case
6		vertical caulk betwix steel balcony	dmv hall by Music
7		vert. caulk " "	" " dm 41
8		Black in FG (DI)	Boiler rm
9		Black in FG (PI)	Boys on pipe chase by dm-13 (PI)
10		Black in FG (DI)	Kitchen Storage
11		9" Brown VT	Gym storage
12		MASTIC #11	" "
13		ceiling plaster (CP)	Auditorium
14		CP	lecture hall
15		Black in FG (PI)	Girls on by gym (pipe chase)
16		(C) OFF FG	Boiler Rm
17		Boiler insul	↓ ↓
18		Boiler Breech	
19		(C) debris (root drain)	top of cp (lecture hall)
20		12" Blue VT	by Hall door to dm 51 (ADD)

Reported By: [Signature] Date: 8/27/19 Due Date: 24-hr  
 Received By: [Signature] Date: 8/28/19

# CHAIN OF CUSTODY

<b>Universal Environmental Consultants</b>
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Town/City: Somerset, MA Building Name: Somerset M.S.

Sample	Result	Description of Material	Sample Location
21		mastic #20	hall door to c/m 51 (ADD)
22		12" Blue wt	hall by c/m 60 (ADD)
23		mastic #22	" " " "
24		12" Blue wt	hall by c/m 62 (ADD)
25		mastic #24	
26		white leveler #24	
27		winfrc caulk	small court yard <b>EXTERIOR</b>
28		winfrc "	large cityyd
29		winfrc @ ground level	large cityyd
30		soft white glaze for window	large cityyd
31		soft grey glaze for window	by Door W2
32		wood fr caulk	Door W2
33		Grille caulk	main office wing
34		winfrc caulk	By door N4
35		winfrc caulk	main office wing windows # 55
36		winfrc	windows #55 (ADD)
37		winfrc	wind # 54
38		door fr	door E-2
39		Ⓢ OFF FG	(ADD) AC by 78
40		oversized wood Fire Door	(ADD) hall by Girl's rm

Reported By: [Signature] Date: 8/27/19 Due Date: 24-hr

Received By: \_\_\_\_\_ Date: \_\_\_\_\_

# CHAIN OF CUSTODY

<b>Universal Environmental Consultants</b>
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Town/City: Somerset, MA Building Name: Somerset MS

Sample	Result	Description of Material	Sample Location
41		2x4 FG SAT	(ADD) random
42		wall plaster (WP)	(ADD) c'm 59
43		WP	Faculty Dining
44		CP	men's rm by 41
45		2x4 SAT (orig w/ side fissures?)	hall by c'm 6 (pink?)
46		2x4 SAT (" " )	conference rm (Brown)
47		2x4 SAT (" " )	c'm-11 (Brown)
48		TSI debris on floor	Girl's locker left mech rm
49		Black in Fla (DI)	↓ ↓ ↓
50		ASSOC glue tab #49	
51		glue tab for FG (DI)	
52		mastic for 9" vt	Girl's locker exit hall
53		WP	conference rm
54		int wingl	main office / Principal
55		CP	incubator rm

Reported By: [Signature] Date: 8/27/19 Due Date: 24-hr  
 Received By: \_\_\_\_\_ Date: \_\_\_\_\_

520071035

# CHAIN OF CUSTODY

Rust H

<b>Universal Environmental Consultants</b>
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Town/City: Somerset, MA Building Name: Somerset Middle School

Sample	Result	Description of Material	Sample Location
1		Flashing/Mastic	See Map location # 1 lower corner
2		mastic	See Map # 3 corner by window
3		Insulation	See Map # 3 corner by window
4		mastic	See Map # 5 corner wall
5		mastic	See Map # 5 corner wall
6		flashing	See Map # 6 under Gulle
7		mastic	See Map # 8 corner by door
8		Insulation	See Map # 8 corner by door
9		Flashing/mastic	See Map # 10 wall @ expansion joint
10		Flashing/mastic	See Map # 15
11		mastic	See Map # 18 corner wall
12		Insulation	See Map # 18 corner wall
13		mastic	See Map # 7 Above window
14		flashing/mastic	See Map # 13 over window/door

Reported By: George Branch Date: 7/15/20

Due Date: ~~7/17/20~~

Received By: [Signature] Date: 7/17/20 (1980)

PLM  
Rust H  
3 HR



**AmeriSci Boston**

8 SCHOOL ST.

WEYMOUTH, MA 02189

TEL: (781) 337-9334 • FAX: (781) 337-7642

## PLM Bulk Asbestos Report

Universal Environmental Consultant  
Attn: Ammar Dieb  
12 Brewster Road  
  
Framingham, MA 01702

**Date Received** 07/17/20    **AmeriSci Job #** 520071035  
**Date Examined** 07/17/20    **P.O. #**  
**Page** 1 **of** 3  
**RE:** Somerset Middle School; Somerset, MA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
1  Location: Flashing/ Mastic/ See Map Location#1 Lower Corner  <b>Analyst Description:</b> Black, Homogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Cellulose Trace, Non-fibrous 100 %	520071035-01	No	NAD  (by CVES) by Bryan H. Clark on 07/17/20
2  Location: Mastic/ See Map #3/ Corner By Window  <b>Analyst Description:</b> Black, Homogeneous, Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Mineral Wool 10 %, Non-fibrous 90 %	520071035-02	No	NAD  (by CVES) by Bryan H. Clark on 07/17/20
3  Location: Insulation/ See Map #3/ Corner By Window  <b>Analyst Description:</b> Yellow, Homogeneous, Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Fibrous glass 98 %, Non-fibrous 2 %	520071035-03	No	NAD  (by CVES) by Bryan H. Clark on 07/17/20
4  Location: Mastic/ See Map #5/ Corner Wall  <b>Analyst Description:</b> Black, Homogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Mineral Wool Trace, Non-fibrous 100 %	520071035-04	No	NAD  (by CVES) by Bryan H. Clark on 07/17/20
5  Location: Mastic/ See Map #5/ Corner Wall  <b>Analyst Description:</b> Black, Homogeneous, Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Mineral Wool 2 %, Non-fibrous 98 %	520071035-05	No	NAD  (by CVES) by Bryan H. Clark on 07/17/20

Client Name: Universal Environmental Consultant

**PLM Bulk Asbestos Report**

Somerset Middle School; Somerset, MA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
6	520071035-06 Location: Flashing/ See Map #6/ Under Grille	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
<b>Analyst Description:</b> Black, Homogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Cellulose Trace, Non-fibrous 100 %			
7	520071035-07 Location: Mastic/ See Map #8/ Corner By Door	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
<b>Analyst Description:</b> Black, Homogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Mineral Wool Trace, Non-fibrous 100 %			
8	520071035-08 Location: Insulation/ See Map #8/ Corner By Door	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
<b>Analyst Description:</b> Yellow, Homogeneous, Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Fibrous glass 98 %, Non-fibrous 2 %			
9	520071035-09 Location: Flashing/ Mastic/ See Map #10/ Wall @ Expantion Joint	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
<b>Analyst Description:</b> Black, Homogeneous, Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Cellulose 60 %, Non-fibrous 40 %			
10	520071035-10 Location: Flashing/ Mastic/ See Map #15	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
<b>Analyst Description:</b> Black, Homogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Cellulose Trace, Fibrous glass Trace, Non-fibrous 100 %			
11	520071035-11 Location: Mastic/ See Map #18/ Cornerwall	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
<b>Analyst Description:</b> Black, Homogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Fibrous glass Trace, Non-fibrous 100 %			

Client Name: Universal Environmental Consultant

# PLM Bulk Asbestos Report

Somerset Middle School; Somerset, MA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
12 Location: Insulation/ See Map #18/ Cornerwall  Analyst Description: Yellow, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Fibrous glass 98 %, Non-fibrous 2 %	520071035-12	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
13 Location: Mastic/ See Map #7/ Above Window  Analyst Description: Black, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 20 %, Non-fibrous 80 %	520071035-13	No	NAD (by CVES) by Bryan H. Clark on 07/17/20
14 Location: Flashing/Mastic/ See Map #13/ Over Window Door  Analyst Description: Black, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 50 %, Non-fibrous 50 %	520071035-14	No	NAD (by CVES) by Bryan H. Clark on 07/17/20

**Reporting Notes:**

Analyzed by: Bryan H. Clark *Bryan Clark* Date Analyzed: 7-17-2020  
 NAD = no asbestos detected; CVES = Calibrated Visual Estimate; NA = not analyzed; NAPS = not analyzed / positive stop; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; PLM Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #102079-0). Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.  
 Reviewed By: \_\_\_\_\_





# universal environmental consultants

12 Brewster Road  
Framingham, MA 01702

Phone: 508.628.5486  
Fax: 508.628.5488

131905297

## CHAIN OF CUSTODY

BUILDING / SITE NAME: Somerset Middle School

TOWN / CITY: Somerset

WORK AREA: -

STATE: MA

Analysis Type	Turnaround Time (x)				
	6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM					
Mold			X		
Other:					

**Specific Project Notes**

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
①	- 2765 7082	room: 34	0911	0921	10	15	150
②	- 2764 7724	room: 32	0923	0933	10	15	150
③	- 2765 8673	room: 15	0935	0945	10	15	150
④	- 2765 8663	room: 11	0947	0957	10	15	150
⑤	- 2765 8713	room: 7	1001	1011	10	15	150
⑥	- 2765 8721	outside	1014	1024	10	15	150

SAMPLED BY: Laith Odeh DATE/TIME: 07/18/19 0900 RECEIVED BY: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_ RECEIVED IN LAB BY: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_

REC'D AF 12:53 pm  
 JUL 18 2019  
 W1



# EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com> / [bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order: 131905297

Customer ID: UEC63

Customer PO:

Project ID:

**Attn:** Ammar Dieb  
Universal Environmental Consultants  
12 Brewster Road  
Framingham, MA 01702

**Phone:** (617) 984-9772

**Fax:** (508) 628-5488

**Collected:** 07/18/2019

**Received:** 07/18/2019

**Analyzed:** 07/19/2019

**Project:** Somerset Middle School., Somerset, MA

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	131905297-0001			131905297-0002			131905297-0003		
Client Sample ID:	1			2			3		
Volume (L):	150			150			150		
Sample Location	ROOM:34			ROOM:32			ROOM:15		
Spore Types	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	1	20	1.7
Aspergillus/Penicillium	17	350	53.8	25	510	70.8	3	60	5.1
Basidiospores	8	200	30.8	8	200	27.8	56	1100	93.2
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	6	100	15.4	2*	10*	1.4	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	<b>31</b>	<b>650</b>	<b>100</b>	<b>35</b>	<b>720</b>	<b>100</b>	<b>60</b>	<b>1180</b>	<b>100</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	1*	7*	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Steve Grise, Laboratory Manager  
or other approved signatory

No discernable field blank was submitted with this group of samples.

Samples received in good condition unless otherwise noted. High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the result, it will be noted on the report.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC --EMLAP Accredited #180179

Initial report from: 07/19/2019 13:05:39

For information on the fungi listed in this report, please visit the Resources section at [www.emsl.com](http://www.emsl.com)



# EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com> / [bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order: 131905297

Customer ID: UEC63

Customer PO:

Project ID:

**Attn:** Ammar Dieb  
Universal Environmental Consultants  
12 Brewster Road  
Framingham, MA 01702

**Phone:** (617) 984-9772

**Fax:** (508) 628-5488

**Collected:** 07/18/2019

**Received:** 07/18/2019

**Analyzed:** 07/19/2019

**Project:** Somerset Middle School., Somerset, MA

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number: Client Sample ID: Volume (L): Sample Location	131905297-0004			131905297-0005			131905297-0006					
	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total			
4 150 ROOM:11	5 150 ROOM:7	6 150 OUTSIDE	Alternaria (Ulocladium)	-	-	-	1	20	2.5	-	-	-
Ascospores	12	250	8.3	-	-	-	-	-	-	67	1400	8.5
Aspergillus/Penicillium	4	80	2.7	8	200	25.3	8	200	1.2	8	200	1.2
Basidiospores	125	2560	85	25	510	64.6	678	13900	84.6	678	13900	84.6
Bipolaris++	-	-	-	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-	-	-	-
Cladosporium	5	100	3.3	3	60	7.6	39	800	4.9	39	800	4.9
Curvularia	-	-	-	-	-	-	1	20	0.1	1	20	0.1
Epicoccum	-	-	-	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-	-	-	-
Ganoderma	1	20	0.7	-	-	-	7	100	0.6	7	100	0.6
Myxomycetes++	-	-	-	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	1*	7*	0	1*	7*	0
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	<b>147</b>	<b>3010</b>	<b>100</b>	<b>37</b>	<b>790</b>	<b>100</b>	<b>801</b>	<b>16427</b>	<b>100</b>	<b>801</b>	<b>16427</b>	<b>100</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Steve Grise, Laboratory Manager  
or other approved signatory

No discernable field blank was submitted with this group of samples.

Samples received in good condition unless otherwise noted. High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the result, it will be noted on the report.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC --EMLAP Accredited #180179

Initial report from: 07/19/2019 13:05:39

For information on the fungi listed in this report, please visit the Resources section at [www.emsl.com](http://www.emsl.com)

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

EPA Method #402-R-92-004  
Liquid Scintillation  
NRPP Device Code 8088  
NRSB Device Code 12193

Laboratory Report for:

Property Tested: Project # 219409.00

Universal Environmental Consultant  
12 Brewster Road  
Framingham MA 01702

Somerset Middle School  
1141 Brayton Avenue  
Somerset MA 02725

Log Number	Device Number	Test Exposure	Duration:	Area Tested	Result pCi/L
2532995	4044805	07/18/2019 9:24 am	07/22/2019 8:03 am	Bldg. SMS Ground Floor Room 34	< 0.4
2532996	4044794	07/18/2019 9:27 am	07/22/2019 8:09 am	Bldg. SMS Ground Floor Room 32	< 0.4
2532997	4044807	07/18/2019 9:38 am	07/22/2019 8:10 am	Bldg. SMS Ground Floor Room 15	< 0.4
2532998	4044784	07/18/2019 9:42 am	07/22/2019 8:13 am	Bldg. SMS Ground Floor Room 11	< 0.4
2532999	4044798	07/18/2019 9:45 am	07/22/2019 8:15 am	Bldg. SMS Ground Floor Room 4	< 0.4

**Comment:** Universal Environmental Consultant was emailed a copy of this report.

Test Performed By: Laith Odeh

Distributed by: Universal Environmental Consultant

Date Received: 07/22/2019    Date Logged: 07/22/2019    Date Analyzed: 07/23/2019    Date Reported: 07/23/2019

Report Reviewed By: Michelle Cleveland

Report Approved By: 

**Disclaimer:**

Shawn Price, Director of Laboratory Operations, AccuStar Labs

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.