

April 19, 2023

Mr. Jacob Neves
Construction Supervisor
Department of Planning and Development
City of Woonsocket
P.O. Box B, 169 Main Street
Woonsocket, RI 02895

W: 401.767.9233; F: 401.766.9312

E: jneves@woonsocketri.org

RE: Revised Report – Pre-Demolition Inspection for Materials Suspected of Containing Asbestos
Site: Former Animal Shelter, 9 Cumberland Hill Rd, Woonsocket, RI 02895
RI Analytical Laboratories, Inc. Project #2022221

Dear Mr. Neves:

RI Analytical Laboratories, Inc. (**RI Analytical**), Exposure Assessment, and Management (EAM) Division would like to thank you for the opportunity to provide **Department of Planning and Development, City of Woonsocket** (the “**Client**”) with environmental consulting services.

BACKGROUND

RI Analytical conducted a pre-demolition inspection with sampling materials suspected of containing asbestos (“**Suspect Materials**”) on December 15, 2022, in the animal shelter building located at the above-referenced Site.



The purpose of this pre-demolition inspection and sampling was to identify whether Suspect Materials at the Site that are likely to be impacted by demolition activities, contain asbestos. The inspection and sampling were completed by a **RIDOH**¹-certified and **EPA**²-accredited Asbestos Inspector, Danny Mullen (RIDOH #AI00963).

¹ **RIDOH** = State of Rhode Island Department of Health

² **EPA** = United State Environmental Protection Agency

RI Analytical conducted a comprehensive inspection of the whole building that is required prior to demolition, but did not conduct sub-slab, or subsurface (underground) investigations to identify concealed Suspect Materials throughout the subject property.

A property owner must ensure that a comprehensive inspection for Suspect Materials is performed prior to the possible disturbance of such materials by renovation or demolition activities. This is a requirement of EPA, NESHAP³, OSHA⁴ and RIDOH asbestos regulations.

METHODOLOGY

Suspect Materials identified were classified into **Homogeneous Material (HM) groups**⁵ to be sampled and analyzed for asbestos content by **PLM**⁶. In addition, **NOB**⁷ materials were analyzed using PLM with gravimetric preparation. Samples were analyzed by RI Analytical, a RIDOH-certified Asbestos Analytical Laboratory (#PLM00142).

OBSERVATIONS AND RESULTS

EPA, OSHA, and RIDOH define a material that contains greater than one percent (>1%) asbestos utilizing PLM analysis as an **ACM**⁸. Any material found to contain ≤1% asbestos by PLM laboratory analysis is defined as **ACWM**⁹ and must be handled appropriately. Materials that are identified as “Not Detected” are specified as not containing asbestos.

The sample results are summarized in **Table 1** below. Materials determined to be ACM are highlighted in **yellow**. Materials determined to be ACWM are highlighted in **green**. The laboratory analytical reports and chain-of-custody forms are attached.

³ NESHAP = National Emission Standards for Hazardous Air Pollutants, 40 CFR 61, Subpart M.

⁴ OSHA = US Dept. of Labor, Occupational Health and Safety Administration, 29 CFR 1926.1101 (Asbestos in Construction Standard).

⁵ Homogeneous Material groups = groups of materials similar in color, texture, and typically application

⁶ PLM = Polarized Light Microscopy, EPA/600/R-93/116 (1993) "Method for the Determination of Asbestos in Bulk Building Materials."

⁷ NOB = Non-Friable, Organically-Bound Materials

⁸ ACM = Asbestos-Containing Materials

⁹ ACWM = Asbestos-Containing Waste Materials

Table 1 - Work Order #2212-21121 - Suspect Materials - Laboratory Analytical Data Summary

Line #	HM#/ Sample #	Material	Location	Asbestos Result
1	1A	2'x4' Suspended acoustical ceiling tile (white, small fissure)	Reception ceiling	Not Detected
2	1B	2'x4' Suspended acoustical ceiling tile (white, small fissure)	Interior kennel ceiling	Not Detected
3	2A	Sink undercoating (black) on porcelain	Bathroom sink	Not Detected
4	2B	Sink undercoating (black) on porcelain	Bathroom sink	Not Detected
5	3A	Sink undercoating (black) on stainless steel	Kitchen double sink	5-15% Chrysotile
6	3B	Sink undercoating (black) on stainless steel	Kitchen double sink	5-15% Chrysotile
7	4A	Vermiculite material (brown)	Reception east CMU exterior wall cavity	Not Detected See Vermiculite Sampling and Analysis below
8	4B	Vermiculite material (brown)	Bathroom south CMU exterior wall cavity	Not Detected See Vermiculite Sampling and Analysis below
9	5A	Joint compound (white) on gypsum board	Quarantine room ceiling	Not Detected
10	5B	Joint compound (white) on gypsum board	Laundry room ceiling east	Not Detected
11	5C	Joint compound (white) on gypsum board	Laundry room ceiling NW	Not Detected
12	6A	Gypsum board (white) on wood stud frame	Quarantine room ceiling	Not Detected
13	6B	Gypsum board (white) on wood stud frame	Laundry room ceiling east	Not Detected
14	7A	Window caulk (gray) bead between wood window frame and CMU block wall	Bathroom window	5-15% Chrysotile
15	7B	Window caulk (gray) bead between wood window frame and CMU block wall	Reception window	5-15% Chrysotile
16	8A	Hard concrete (gray)	Interior kennel floor	Not Detected
17	8B	Hard concrete (gray)	West exterior kennel floor	Not Detected
18	9A	Homosote board on wood stud frame	Interior kennel ceiling	Not Detected
19	9B	Homosote board on wood stud frame	Interior kennel ceiling	Not Detected
20	10A	Wafer paper (brown)	Interior of reception metal door	Not Detected
21	10B	Wafer paper (brown)	Interior of bathroom metal door	Not Detected
22	11A	Mortar (gray) between CMU block	Reception CMU west wall	Not Detected
23	11B	Mortar (gray) between CMU block	Hall to kitchen south CMU wall	Not Detected
24	12A	Insulation material (white, granular)	North exterior CMU wall cavity	Not Detected
25	12B	Insulation material (white, granular)	North exterior CMU wall cavity	Not Detected
26	13A	Asphalt shingle (white) on black felt paper	East main building roof field	Not Detected
27	13B	Asphalt shingle (white) on black felt paper	West main building roof field	Not Detected
28	14A	Felt paper (black) on wood substrate	East main building roof field	Not Detected
29	14B	Felt paper (black) on wood substrate	West main building roof field	Not Detected
30	15A	Black caulk on asphalt shingle and CMU block wall	West exterior kennel roof where shingle meets CMU wall	Not Detected
31	15B	Black caulk on asphalt shingle and CMU block wall	East exterior kennel roof where shingle meets CMU wall	Not Detected
32	16A	Exterior window caulk (white) on wood and CMU block	East window exterior	Not Detected
33	16B	Exterior window caulk (White) on wood and CMU block	West window exterior	Not Detected
34	17A	Exterior window glazing (white) on glass at wood	West window exterior	Not Detected

Table 1 - Work Order #2212-21121 - Suspect Materials - Laboratory Analytical Data Summary				
Line #	HM#/ Sample #	Material	Location	Asbestos Result
35	17B	Exterior window glazing (white) on glass at wood	West window exterior	Not Detected
36	18A	Water and Ice (black)	West roof under exhaust stack flange on wood substrate	Not Detected
37	18B	Water and Ice (black)	East roof under asphalt shingle on wood substrate	Not Detected

RI Analytical returned to the site on January 25, 2023, to collect additional samples including sampling of the interior contents of the previously assumed ACM fire door and Vermiculite materials inside cavities in 3 CMU block walls.

Table 2 - Work Order #2301-01356 - Suspect Materials - Laboratory Analytical Data Summary				
Line #	HM#/ Sample #	Material	Location	Asbestos Result
1	19A	Adhesive (yellow) on Styrofoam	Fire Door Interior	Not Detected
2	20A	Soft putty (gray)	Fire Door Interior	Not Detected

Utilizing the EPA, OSHA, and RIDOH protocols and criteria, laboratory analyses identified homogeneous materials noted in **Table 3** below as **ACM**. No **ACWM** were identified. Quantities listed are estimates only for planning purposes only and must be verified by project bidders.

Table 3 - ACM and ACWM Inventory Summary						
HM #	Material Type	ACM Location	Sample # Asbestos Content	Condition	Estimated Quantity	Notes
3	Anti-condensate coating (black) on stainless steel sink	Kitchen	3A, 3B 5-15% Chrysotile	I, NF	3 SF (One double bowl stainless steel sink)	Remove sink intact, double-wrap in 6-mil poly for disposal as ACM
7	Window caulk (gray) between wood window frame and CMU block wall	Bathroom, Kitchen, and Reception	7A, 7B 5-15% Chrysotile	I, NF	2.8 SF (½" bead of caulk around each wood window frame at CMU block. Seven (7) windows , each 22" x 36"	Scrape ACM caulk off substrates or scrape off CMU block and dispose of wood with adhered caulk as ACM.

HM = Homogenous Material; F = **Friable**¹⁰; NF = Non-Friable; I = Intact; D = Damaged (i.e. <10% of the material is damaged); SD = Significantly Damaged (i.e. >10% of the material is damaged); EA = Each; LF = Linear Feet; SF = Square Feet; CF = Cubic Feet.

¹⁰ **Friable** = Material that, when dry, can be crumbled, shattered, pulverized or reduced to powder by hand pressure

VERMICULITE SAMPLING AND ANALYSIS

The initial report submitted to Client on January 6th, 2023, included PLM analysis of the two samples of Vermiculite material (brown) found in the interior cavities of three (3) CMU block walls (East, West, and South exterior walls). These two samples were found to not contain asbestos by PLM lab analysis.

Because PLM analytical methods for asbestos in Vermiculite bulk material samples are inadequately defined, Barium analysis was also completed on the Vermiculite bulk sample using ICP-AES¹¹ method SW-846 6010C¹². This Barium analysis is used to identify whether the Vermiculite material likely comes from Libby, Montana where the material is known to be contaminated with asbestos.

The result of the laboratory analysis of the Vermiculite material for Barium is summarized in **Table 4** below. Materials determined to contain Barium at greater than 1,500 ppm¹³ (>1,500 ppm) are determined to originate from Libby, Montana and are considered to contain asbestos (highlighted in yellow in Table 4).

Table 4 - Work Order # 2212-21186 Laboratory Analytical Data Summary – Bulk Sample Analysis for Barium by ICP			
Sample #	Material	Location	Result (ppm)
V-1	Vermiculite in CMU block cavities	Exterior wall cavities in CMU block	1,070

RI Analytical returned to the site on January 25, 2023, to collect an additional sample of the Vermiculite material as a large, representative sample of the Vermiculite materials in the interiors of the 3 CMU block walls (East, West, and South exterior walls). The sample was submitted to EMSL Analytical, Inc., Cinnaminson, NJ, for milling preparation (i.e. homogenization of the entire sample) and analysis specifically for asbestos by TEM¹⁴, with additional analysis by PLM.

The sample results are summarized in **Table 5** below. Materials determined to be ACM are highlighted in yellow. Materials determined to be ACWM (i.e. that contain ≤1% asbestos) are highlighted in green. The laboratory analytical reports and chain-of-custody forms are attached.

Table 5 – EMSL Analytical, Inc. order #042303163 Analysis of Bulk Material Utilizing TEM EPA 600/R-93/116 (§2.5.5.2) with Sample Milling Preparation, and with additional PLM analysis (EPA 600/R-93/116 - Quantitation using 400 Point Count Procedure)			
Sample #	Material	Location	Asbestos Result
1	Vermiculite material (brown) from cavities in 3 CMU block walls – 3 source points (1A, 1B, 1C)	Exterior wall cavities in 3 CMU block walls	TEM - Not Detected PLM 400-point Count – Not Detected

¹¹ ICP-AES Inductively coupled plasma-atomic emission spectrometry which is be used to determine trace elements in a solution.

¹² "Differentiation of Commercial Vermiculite Based on Statistical Analysis of Bulk Chemical Data: Fingerprinting Vermiculite from Libby, MT U.S.A." Mickey E. Gunter, et al, American Mineralogist, Volume 90, pages 749-754, 2005.

¹³ ppm = mg/kg.

¹⁴ Transmission Electron Microscopy - EPA/600/R-93/116 (1993) "Method for the Determination of Asbestos in Bulk Building Materials."

REPRESENTATIVE PHOTOGRAPHS OF ACM



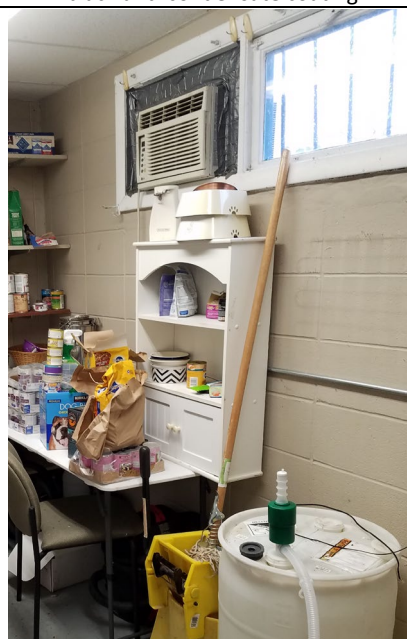
Kitchen – showing kitchen sink that has ACM undercoat material



Kitchen – showing underside of sink showing ACM black anti-condensate coating



Bathroom – showing window with ACM caulk (gray) on outside perimeter of wood window frame at CMU



Kitchen – showing window with caulk (gray) on wood and CMU

	
Reception – showing window with caulk (gray) on wood and CMU	Reception – showing hole made in CMU block revealing Vermiculite material

CONCLUSIONS AND RECOMMENDATIONS

Based on visual observations, sample collection, and laboratory analysis, ACM were identified at the Site as identified in **Table 3** above.

The initial report had recommended that even though the Vermiculite material was found to not contain asbestos by PLM analysis, it was found to contain Barium slightly above typical background concentration (500 ppm) and should be treated as ACM. However, additional investigation, sampling and analysis was undertaken to further evaluate and characterize the presence of asbestos in the Vermiculite material.

The Vermiculite material found in the wall cavities of the 3 CMU block wall (East, West, and South exterior walls) was found not to contain asbestos by PLM analysis by RI Analytical laboratory. In addition, RI Analytical submitted samples of the Vermiculite material collected as a large sample from locations in each of 3 exterior walls, to EMSL Analytical, Inc. laboratory, Cinnaminson, NJ, for milling preparation and analysis by TEM and additional analysis by PLM with 400-point counting.

The sample was found to not contain asbestos by both TEM and PLM with 400-point counting analyses.

Considering also that the concentration of Barium in the Vermiculite material was found to be 1,050 ppm, i.e., **below** the 1,500 ppm threshold for Libby, Montana material.

Given the PLM, TEM, PLM with 400-point counting and Barium analysis results, it is the conclusion of RI Analytical that the Vermiculite material can be disposed of as non-ACM waste. However, this material must be wetted by water misting during demolition. RI Analytical staff will also collect upwind and downwind and excavator operator OSHA compliance **PCM**¹⁵ air samples during the demolition of the 3 exterior CMU block walls. The samples will be analyzed in accordance with **NIOSH**¹⁶ Method 7400 by RI Analytical, a RIDOH-licensed Asbestos Analytical Laboratory (#PCM00142).

The initial report also recommended that the fire door located between the interior Kennel area and the Grooming area be assumed to contain interior ACM. Subsequent sampling and analysis by PLM determined that the interior materials of the fire door do not contain asbestos. The fire door can be disposed of as non-ACM waste.

If the ACM identified are to be abated (i.e., removed, repaired, encapsulated, or enclosed) and the quantity of ACM to be abated **does not exceed** the RIDOH trigger quantity of 10 LF/25 SF of ACM, therefore, an Asbestos Abatement Plan does not have to be prepared by a RIDOH-certified Asbestos Project Designer and submitted to RIDOH for review and approval prior to commencing any work related to these ACM.

¹⁵ **PCM** = Phase Contrast Microscopy

¹⁶ **NIOSH** = The National Institute for Occupational Safety and Health

However, all work related to abatement of regulated ACM must be completed by a RIDOH-licensed Asbestos Abatement Contractor in accordance with federal, state, and local rules and regulations, including those of OSHA, as required. Storage, transportation, and disposal of ACM and ACWM must also comply with applicable federal, state, and local rules and regulations.

The asbestos abatement contractor must provide the Owner and RIDOH the waste shipment records for all shipments of asbestos waste that left the Site, in accordance with (216-RICR-50-15-1 §1.17.3 B.1. through 6.

If Suspect Materials should be encountered during demolition activities that are not identified in this report as not containing asbestos, demolition work must stop and these Suspect Materials must be assumed to be ACM and removed and disposed of as ACM or they must be sampled by a licensed Asbestos Inspector and laboratory analyzed to prove presence or absence of asbestos.

LIMITATIONS

RI Analytical does consider this to be a complete and comprehensive asbestos inspection and sampling of visible, accessible building materials. Destructive investigations were conducted to sample all building materials suspected of containing asbestos. Other materials in the building may contain asbestos and must be sampled for laboratory analysis prior to being impacted in any way.

All observations documented in this report were made under the conditions existing at the time of this investigation. Should changes from existing conditions occur in the future, warranting laboratory analysis, they should be brought to the attention of RI Analytical.

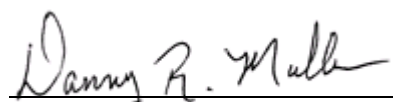
This report was prepared at the request of the Client. We further confirm that Client, its affiliates and subsidiaries, and their successors, assigns, and grantees may rely on the report within the limitations and recommendations contained therein as if it were prepared for the benefit of and addressed to them.

This report should not be represented, reproduced, or disseminated without the written approval of RI Analytical or Client. No warranties other than those expressed in the contract for this project are expressed or implied.

Please do not hesitate to contact our EAM Division at 401-737-8500 if you have any questions concerning this report or if we may be of further assistance.

Sincerely,

RI Analytical Laboratories, Inc.
Exposure Assessment and Management Division



Danny Mullen
Environmental Science Consultant
Project Manager, EAM Division
RIDOH #AI00963



Kenneth Davis
Senior Environmental Scientist
Manager, EAM Division
RIDOH #AI00510

Doc: Rev1-Rpt-AnimalShelter-9CumberlandHillRd,Woonsocket,RI02895-ASBpre-demo_rg_drm

Attachments: RI Analytical Laboratory Analytical Reports and Chain-of-Custody Forms
EMSL Analytical, Inc. Analytical Reports and Chain-of-Custody Forms
Sample Locations Sketch

RI Analytical Laboratory Analytical Reports and Chain-of-Custody Forms

LABORATORY REPORT

R.I. Analytical Laboratories
Attn:
E.A.M. Division
15 Lark Industrial Parkway
Smithfield, RI 02828

Date Received: 12/15/2022
Date Reported: 12/20/2022
Work Order #: 2212-21121

Site Location: City Of Woonsocket EAM # 2022221

Enclosed please find your sample(s) analysis results for asbestos content. The six asbestos types include amosite, chrysotile, crocidolite, anthophyllite, tremolite, and actinolite.

Analysis by Polarized Light Microscopy (PLM) was performed in accordance with EPA 40 CFR Appendix E to Subpart E of Part 763 and/or EPA 600/R-93/116.

R.I. Analytical Laboratories, Inc. maintains bulk asbestos fiber NVLAP accreditation under Lab Code 101440-0. This report does not serve as a product certification, approval, and/or endorsement by NVLAP, NIST, or any federal agency.

The sample(s) submitted for analysis were accepted by R.I. Analytical unless otherwise noted in the report. If a sample is found to be inhomogeneous, individual components will be analyzed separately. If individual components cannot be separated, the sample will be homogenized and a single result will be provided. These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

In accordance with EPA guidelines, vermiculite materials should be assumed to contain asbestos even if PLM analysis reports asbestos not detected. All NOB (Non-Friable Organically Bound) materials such as vinyl floor tile, vinyl sheet flooring, glues, and mastics, that test as <1% asbestos, trace asbestos and no asbestos detected, should be further analyzed by TEM (Transmission Electron Microscopy).

Samples submitted for analysis will be retained for three months for future reference.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:



Asbestos Signatory

R.I. Analytical Laboratories, Inc.**LABORATORY REPORT**

R.I. Analytical Laboratories

Date Received: 12/15/2022

Work Order #: 2212-21121

Site Location: City Of Woonsocket EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
001	1A 2'x4' Suspended acoustical ceiling tile (white, small)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	30-40 %	12/20/2022	KMG
		Non-fibrous	60-70 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
002	1B 2'x4' Suspended acoustical ceiling tile (white, small)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	30-40 %	12/20/2022	KMG
		Non-fibrous	60-70 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
003	2A Sink undercoating (black on porcelain)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG
004	2B Sink undercoating (black, on porcelain)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG
005	3A Sink undercoating (black, on stainless steel)	PLM Fiber Analysis			
		Asbestos	Detected	12/20/2022	KMG
		Chrysotile	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG

R.I. Analytical Laboratories, Inc.**LABORATORY REPORT**

R.I. Analytical Laboratories

Date Received: 12/15/2022

Work Order #: 2212-21121

Site Location: City Of Woonsocket EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
006	3B Sink undercoating (black, on stainless steel)	PLM Fiber Analysis			
		Asbestos	Detected	12/20/2022	KMG
		Chrysotile	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG
007	4A Vermiculite insulation (brown)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Brown	12/20/2022	KMG
008	4B Vermiculite insulation (brown)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Brown	12/20/2022	KMG
009	5A Joint compound (white) on gypsum board	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
010	5B Joint compound (white) on gypsum board	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
011	5C Joint compound (white) on gypsum board	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG

R.I. Analytical Laboratories, Inc.

LABORATORY REPORT

R.I. Analytical Laboratories

Date Received: 12/15/2022

Work Order #: 2212-21121

Site Location: City Of Woonsocket EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
012	6A Gypsum board (white) on wood stud frame	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
013	6B Gypsum board (white) on wood stud frame	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
014	7A Interior window caulk (gray) on wood and CMU	PLM Fiber Analysis			
		Asbestos	Detected	12/20/2022	KMG
		Chrysotile	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	Gray	12/20/2022	KMG
015	7B Interior window caulk (gray) on wood and CMU	PLM Fiber Analysis			
		Asbestos	Detected	12/20/2022	KMG
		Chrysotile	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	Gray	12/20/2022	KMG
016	8A Hard concrete (gray)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Gray	12/20/2022	KMG
017	8B Hard concrete (gray)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Gray	12/20/2022	KMG

R.I. Analytical Laboratories, Inc.**LABORATORY REPORT**

R.I. Analytical Laboratories

Date Received: 12/15/2022

Work Order #: 2212-21121

Site Location: City Of Woonsocket EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
018	9A Homosote ob wood stud frame	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Brown	12/20/2022	KMG
019	9B Homosote ob wood stud frame	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Brown	12/20/2022	KMG
020	10A Wafer paper (brown)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Brown	12/20/2022	KMG
021	10B Wafer paper (brown)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Brown	12/20/2022	KMG
022	11A Mortar (gray) between CMU block	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Gray	12/20/2022	KMG
023	11B Mortar (gray) between CMU block	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Gray	12/20/2022	KMG

R.I. Analytical Laboratories, Inc.**LABORATORY REPORT**

R.I. Analytical Laboratories

Date Received: 12/15/2022

Work Order #: 2212-21121

Site Location: City Of Woonsocket EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
024	12A Insulation material (white)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
025	12B Insulation material (white)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
026	13A Asphalt shingle (white) on black felt paper	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
027	13B Asphalt shingle (white) on black felt paper	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
028	14A Felt paper (black) on wood substrate	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	1-5 %	12/20/2022	KMG
		Non-fibrous	95-99 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG

R.I. Analytical Laboratories, Inc.
LABORATORY REPORT

R.I. Analytical Laboratories
Date Received: 12/15/2022
Work Order #: 2212-21121
Site Location: City Of Woonsocket EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
029	14B Felt paper (black) on wood substrate	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	1-5 %	12/20/2022	KMG
		Non-fibrous	95-99 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG
030	15A Black caulk on asphalt shingle and CMU block wall	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG
031	15B Black caulk on asphalt shingle and CMU block wall	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG
032	16A Exterior window caulk (white) on wood and CMU block	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
033	16B Exterior window caulk (white) on wood and CMU block	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
034	17A Exterior window glazing (white) on wood	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG

R.I. Analytical Laboratories, Inc.**LABORATORY REPORT**

R.I. Analytical Laboratories

Date Received: 12/15/2022

Work Order #: 2212-21121

Site Location: City Of Woonsocket EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
035	17B Exterior window glazing (white) on wood	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Non-fibrous	100 %	12/20/2022	KMG
		Sample Color	White	12/20/2022	KMG
036	18A Water and Ice (black)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG
037	18B Water and Ice (black)	PLM Fiber Analysis			
		Asbestos	Not Detected	12/20/2022	KMG
		Glass Fiber	5-15 %	12/20/2022	KMG
		Non-fibrous	85-95 %	12/20/2022	KMG
		Sample Color	Black	12/20/2022	KMG

**R.I. ANALYTICAL**41 Illinois Avenue - Warwick, RI 02888
P: (401) 737-8500 F: (401) 732-8034**SAMPLE DATA SHEET
&
CHAIN OF CUSTODY**

Project: City of Woonsocket Depart. of Planning & Development			Client PO #:		
Address: 9 Cumberland Hill Rd, Woonsocket, RI 02895			RI Analytical EAM Project #:		2022221
Area: Animal Shelter			RI Analytical Work Order #:		2212-21121
Sampled By:	Danny Mullen	License #	AI00963	Inspection date:	12/15/22

Page 1 of 2

Line	Sample #	Description	Location	Notes
1	1A	2'x4' Suspended acoustical ceiling tile (white, small fissure)	Reception ceiling	
2	1B	2'x4' Suspended acoustical ceiling tile (white, small fissure)	Interior kennel ceiling	
3	2A	Sink undercoating (black, on porcelain)	Bathroom sink	
4	2B	Sink undercoating (black, on porcelain)	Bathroom sink	
5	3A	Sink undercoating (black, on stainless steel)	Kitchen double sink	
6	3B	Sink undercoating (black, on stainless steel)	Kitchen double sink	
7	4A	Vermiculite insulation (brown)	Reception east CMU exterior wall cavity	
8	4B	Vermiculite insulation (brown)	Bathroom south CMU exterior wall cavity	
9	5A	Joint compound (white) on gypsum board	Quarantine room ceiling	
10	5B	Joint compound (white) on gypsum board	Laundry room ceiling east	
11	5C	Joint compound (white) on gypsum board	Laundry room ceiling NW	
12	6A	Gypsum board (white) on wood stud frame	Quarantine room ceiling	
13	6B	Gypsum board (white) on wood stud frame	Laundry room ceiling east	
14	7A	Interior window caulk (gray) on wood and CMU	Bathroom window	
15	7B	Interior window caulk (gray) on wood and CMU	Reception window	
16	8A	Hard concrete (gray)	Interior kennel floor	
17	8B	Hard concrete (gray)	West exterior kennel floor	
18	9A	Homosote on wood stud frame	Interior kennel ceiling	
19	9B	Homosote on wood stud frame	Interior kennel ceiling	
20	10A	Wafer paper (brown)	Interior of reception metal door	

COMMENTS: Email report to: Name: Danny Mullen; Email to: dmullen & jjencks & kdavis @rianalytical.com @rianalytical.comA. (1) Analysis = ☒ PLM, Asbestos (EPA 600/R-93/116); ☐ PLM NOB as needed; ☐ 400 point count if friable and <10% ASB; ☐ TEM NOB(2) TAT = 5 Day; (3) No. samples submitted = 37; (4) ☒ Y or ☐ N - Positive stop by Homogeneous # shown.**Notes:**

RELINQUISHED BY: (SIGNATURE) <i>Danny R. Mullen</i>	DATE/TIME 12/15/22 13:30	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	DATE/TIME 12/15/22
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME

**R.I. ANALYTICAL**41 Illinois Avenue - Warwick, RI 02888
P: (401) 737-8500 F: (401) 732-8034**SAMPLE DATA SHEET
&
CHAIN OF CUSTODY**

Project: City of Woonsocket Depart. of Planning & Development				Client PO #:		
Address: 9 Cumberland Hill Rd, Woonsocket, RI 02895				RI Analytical EAM Project #:		2022221
Area: Animal Shelter				RI Analytical Work Order #:		2212-21121
Sampled By:	Danny Mullen	License #	AI00963	Inspection date:	12/15/22	Page 1 of 2

Line	Sample #	Description	Location	Notes
21	10B	Wafer paper (brown)	Interior of bathroom metal door	
22	11A	Mortar (gray) between CMU block	Reception CMU west wall	
23	11B	Mortar (gray) between CMU block	Hall to kitchen south CMU wall	
24	12A	Insulation material (white)	North exterior CMU wall cavity	
25	12B	Insulation material (white)	North exterior CMU wall cavity	
26	13A	Asphalt shingle (white) on black felt paper	East main building roof field	
27	13B	Asphalt shingle (white) on black felt paper	West main building roof field	
28	14A	Felt paper (black) on wood substrate	East main building roof field	
29	14B	Felt paper (black) on wood substrate	West main building roof field	
30	15A	Black caulk on asphalt shingle and CMU block wall	West exterior kennel roof where shingle meets CMU wall	
31	15B	Black caulk on asphalt shingle and CMU block wall	East exterior kennel roof where shingle meets CMU wall	
32	16A	Exterior window caulk (white) on wood and CMU block	East window exterior	
33	16B	Exterior window caulk (White) on wood and CMU block	West window exterior	
34	17A	Exterior window glazing (white) on wood	West window exterior	Only one window with glazing.
35	17B	Exterior window glazing (white) on wood	West window exterior	
36	18A	Water and Ice (black)	West roof under exhaust stack flange on wood substrate	
37	18B	Water and Ice (black)	East roof under asphalt shingle on wood substrate	
38				
39				
40				

COMMENTS: Email report to: Name: Danny Mullen; Email to: dmullen & jjencks & kdavis @rianalytical.com @rianalytical.comA. (1) Analysis = ☒ PLM, Asbestos (EPA 600/R-93/116); ☐ PLM NOB as needed; ☐ 400 point count if friable and <10% ASB; ☐ TEM NOB(2) TAT = 5 Day; (3) No. samples submitted = 37; (4) ☒ Y or ☐ N - Positive stop by Homogeneous # shown.**Notes:**

RELINQUISHED BY: (SIGNATURE) <u>Danny R. Mullen</u>	DATE/TIME 12/15/22 13:30	RECEIVED BY: (SIGNATURE) <u>[Signature]</u>	DATE/TIME 12.15.22
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME

LABORATORY REPORT

R.I. Analytical Laboratories
Attn:
E.A.M. Division
15 Lark Industrial Parkway
Smithfield, RI 02828

Date Received: 1/25/2023
Date Reported: 1/25/2023
Work Order #: 2301-01356

Site Location: Woonsocket Animal Shelter EAM # 2022221

Enclosed please find your sample(s) analysis results for asbestos content. The six asbestos types include amosite, chrysotile, crocidolite, anthophyllite, tremolite, and actinolite.

Analysis by Polarized Light Microscopy (PLM) was performed in accordance with EPA 40 CFR Appendix E to Subpart E of Part 763 and/or EPA 600/R-93/116.

R.I. Analytical Laboratories, Inc. maintains bulk asbestos fiber NVLAP accreditation under Lab Code 101440-0. This report does not serve as a product certification, approval, and/or endorsement by NVLAP, NIST, or any federal agency.

The sample(s) submitted for analysis were accepted by R.I. Analytical unless otherwise noted in the report. If a sample is found to be inhomogeneous, individual components will be analyzed separately. If individual components cannot be separated, the sample will be homogenized and a single result will be provided. These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

In accordance with EPA guidelines, vermiculite materials should be assumed to contain asbestos even if PLM analysis reports asbestos not detected. All NOB (Non-Friable Organically Bound) materials such as vinyl floor tile, vinyl sheet flooring, glues, and mastics, that test as <1% asbestos, trace asbestos and no asbestos detected, should be further analyzed by TEM (Transmission Electron Microscopy).

Samples submitted for analysis will be retained for three months for future reference.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:



Asbestos Signatory

R.I. Analytical Laboratories, Inc.**LABORATORY REPORT**

R.I. Analytical Laboratories

Date Received: 1/25/2023

Work Order #: 2301-01356

Site Location: Woonsocket Animal Shelter EAM # 2022221

METHOD: EPA 600/R-93/116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
001	19A Yellow adhesive on Styrofoam	PLM Fiber Analysis			
		Asbestos	Not Detected	1/25/2023	KMG
		Non-fibrous	100 %	1/25/2023	KMG
		Sample Color	Yellow	1/25/2023	KMG
002	20A Soft gray putty	PLM Fiber Analysis			
		Asbestos	Not Detected	1/25/2023	KMG
		Non-fibrous	100 %	1/25/2023	KMG
		Sample Color	Gray	1/25/2023	KMG

**R.I. ANALYTICAL**41 Illinois Avenue - Warwick, RI 02888
P: (401) 737-8500 F: (401) 732-8034**SAMPLE DATA SHEET
&
CHAIN OF CUSTODY**

Project: City of Woonsocket Depart. of Planning & Development		Client PO #:	
Address: 9 Cumberland Hill Rd, Woonsocket, RI 02895		RI Analytical EAM Project #:	2022221
Area: Animal Shelter		RI Analytical Work Order #:	2301-01356
Sampled By: Danny Mullen	License # AI00963	Inspection date: 1/25/23	Page 1 of 2

Line	Sample #	Description	Location	Notes
1	19A	Yellow adhesive on Styrofoam	Fire Door Interior	
2	20A	Soft gray putty	Fire Door Interior	
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19				
20				

COMMENTS: Email report to: Name: Danny Mullen; Email to: dmullen & jjencks & kdavis @rianalytical.com @rianalytical.comA. (1) Analysis = ☒ PLM, Asbestos (EPA 600/R-93/116); ☒ PLM NOB as needed; ☐ 400 point count if friable and <10% ASB; ☐ TEM NOB(2) TAT = 24 Hour; (3) No. samples submitted = 37; (4) ☐ Y or ☒ N - Positive stop by Homogeneous # shown.**Notes:**

RELINQUISHED BY: (SIGNATURE) <u>Danny R. Mullen</u>	DATE/TIME 1/25/23 10:45	RECEIVED BY: (SIGNATURE) <u>E. Mullen</u>	DATE/TIME 1.25.23
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME

LABORATORY REPORT

R.I. Analytical Laboratories
Attn: Danny Mullen
E.A.M. Division
15 Lark Industrial Parkway
Smithfield, RI 02828

Date Received: 12/16/2022
Date Reported: 12/29/2022
P.O. Number

Work Order #: 2212-21186

Project Name: PROJECT# 2022221 CITY OF WOONSOCKET DEPT. OF PLANNING

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:



Brent Plant
Data Reporting

Laboratory Certification Numbers (as applicable to sample's origin state):

Warwick RI * RI LAI00033, MA M-RI015, CT PH-0508

R.I. Analytical Laboratories, Inc.

Laboratory Report

R.I. Analytical Laboratories

Work Order #: 2212-21186

Project Name: PROJECT# 2022221 CITY OF WOONSOCKET DEPT. OF PLANNING

Sample Number: 001
Sample Description: V-1 VERMICULITE
Sample Type : GRAB
Sample Date / Time : 12/15/2022

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Total Metals Analyzed by ICP						
Barium	1070	5.0	mg/kg dry	SW-846 6010C	12/27/2022 12:56	KK
ICP Digestion				SW-846 3050B	12/20/2022 10:00	RMS
Percent Solids	97.1		%	SM2540G 18-21ed	12/21/2022 11:37	GCL
Moisture	2.9		%	SM2540G 18-21ed	12/21/2022 11:37	GCL

Project# 2022221

City of Woonsocket Depart. of Planning & Development

9 Cumberland Hill Rd, Woonsocket, RI 02895



R.I. ANALYTICAL
41 Illinois Avenue - Warwick, RI 02888
P: (401) 737-8500 F: (401) 732-8034

**SAMPLE DATA SHEET
&
CHAIN OF CUSTODY**

Project: City of Woonsocket Depart. of Planning & Development	Client Purchase Order #:
Address: 9 Cumberland Hill Rd, Woonsocket, RI 02895	RI Analytical EAM Project #: 2022221
Sampled By (Name): Danny Mullen	RI Analytical Work Order#: 2218-21186
Sampled By (Certification #):	Inspection Date: 12/15/22

Page 1 of 1

Line	Sample #	Description	Location	Notes
1	V-1	Vermiculite -	Reception east exterior wall cavity	
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COMMENTS: Email report to: Name: Danny Mullen ; Email to: dmullen@rianalytical.com

Analysis (1) ☒ Barium (ICP EPA SW-846 6010C with Digestion SW-846 3050B)

(2) TAT = Barium TAT 5-day;

(3) No. samples submitted = 1;

RELINQUISHED BY: (SIGNATURE) <u>Danny R. Mullen</u>	DATE/TIME 12/15/22 13:00	RECEIVED BY: (SIGNATURE) <u>Kristin Phelan</u>	DATE/TIME 12/15/22 13:00
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME

t:\eamdocs\asbestos\report\2022 reports\2022221 - animalshelter-9cumberlandhillrd,woonsocket,ri02895-asbpre-demo\asb bulk coc-vermiculite_barium_12.15.22_drm.docx

EMSL Analytical, Inc. Analytical Reports and Chain-of-Custody Forms



EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675
Fax: (856) 858-1292
Email: CinnAsblab@emsl.com

EMSL Order: 042303163
Customer ID: RIA50
Customer PO: EAM#2022221
Project ID:

Attn: *Ken Davis*
R.I. Analytical
41 Illinois Avenue
Warwick, RI, 02888

Phone: (401) 737-8500
Fax: (401) 738-1970
Collected: 01/25/2023
Received: 02/07/23 9:30

Project: **City Of Woonsocket Depart. Of Planning & Development / 9 Cumberland Hill Rd. Woonsocket, RI 0**

Analyzed: 02/20/23

SUMMARY REPORT : TEM EPA 600/R-93/116

Analysis of Bulk Material Utilizing Analytical Electron Microscopy (Section 2.5.5.2) with Milling Prep

Sample ID	Minerals Present	Results	Structures	Reporting Limit	Asbestos Weight	Comments
1	No Structures Detected	Regulated Asbestos	0	0.1%	< 0.1%	
042303163-0001		Other Minerals	0		< 0.1%	
CMU EXTERIOR WALLS		Total	0		< 0.1%	
		Undetermined	0			

D. Little
Analyst

Samantha Rumphus
Approved Signatory

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 is not responsible for sample collection activities or analytical method limitations. Interpretation and use of results are the responsibility of the client. Regulated asbestos includes the 6 Federally regulated types: Chrysotile, Amosite, Crocidolite, Actinolite, Tremolite, Anthophyllite. Other minerals can include: Libby Amphibole, Erionite, and other Non-regulated minerals and are reported here for informational purposes. There are inherent limitations to any method, please contact the laboratory for more information on the analysis or to request additional testing.



EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675
Fax: (856) 858-1292
Email: CinnAsblab@emsl.com

EMSL Order: 042303163
Customer ID: RIA50
Customer PO: EAM#20222
Project ID: 21

Attn: Ken Davis
R.I. Analytical
41 Illinois Avenue
Warwick, RI, 02888

Phone: (401) 737-8500
Fax: (401) 738-1970
Collected: 01/25/2023
Received: 02/07/23 9:30

Project: City Of Woonsocket Depart. Of Planning & Development / 9 Cumberland Analyzed: 02/20/2023

TEM EPA 600/R-93/116

Analysis of Bulk Material Utilizing Analytical Electron Microscopy (Section 2.5.5.2) with Milling Prep

Detailed Sample Report

Customer Sample Number: 1		Reporting Limit : 0.1%	
Sample Description: CMU EXTERIOR WALLS			
EMSL Sample Number: 042303163-0001		Sample Matrix: Bulk	
Aspect ratio for fiber definition: 3:1		Area of collection filter (mm ²): 1333	
Minimum Length (µm): 0.5		Grid Opening Area (mm ²): 0.0061	
Gravimetric Reduction Ratio: 1.00		Grid Openings Analyzed: 10	
Mass contributed by Largest fiber: N/A		Analyst: D.Little	
Mineral Type	Structures	Weight %	Average Aspect Ratio
Total Regulated Asbestos	None Detected	< 0.1%	
Chrysotile	None Detected	<0.1%	
Amosite	None Detected	<0.1%	
Crocidolite	None Detected	<0.1%	
Tremolite	None Detected	<0.1%	
Actinolite	None Detected	<0.1%	
Anthophyllite	None Detected	<0.1%	
Total Other Elongate Mineral Types	None Detected	< 0.1%	
Undetermined Elongate Mineral	None Detected	-	

Laboratory Manager or Other Approved Signatory

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 is not responsible for sample collection activities or analytical method limitations. Interpretation and use of results are the responsibility of the client. Regulated asbestos includes the 6 Federally regulated types: Chrysotile, Amosite, Crocidolite, Actinolite, Tremolite, Anthophyllite. Other minerals can include: Libby Amphibole, Erionite, and other non-regulated minerals. A countable structure for this report would have substantially parallel sides, a length greater than or equal to 0.5 microns and meet the aspect ratio defined above.



R.I. ANALYTICAL
41 Illinois Avenue - Warwick, RI 02888
P: (401) 737-8500 F: (401) 732-8034

SAMPLE DATA SHEET & CHAIN OF CUSTODY

Project: City of Woonsocket Depart. of Planning & Development			Client PO #:		
Address: 9 Cumberland Hill Rd, Woonsocket, RI 02895			RI Analytical EAM Project #: 2022221		
Area: Animal Shelter			RI Analytical Work Order #:		
Sampled By:	Danny Mullen	License #	AI00963	Inspection date: 01/25/23	Page 1 of 1

Line	Sample #	Description	Location	Notes
1	1	Vermiculite material (brown) from cavities in CMU block wall – 3 source points (1A, 1B, 1C)	CMU exterior walls	
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RECEIVED
EMSL
CINNAPRINSON, N.J.
2023 FEB - 7 A 11:57

Dhs

COMMENTS: Email report to: Name: <u>Kenneth Davis</u> ; Email to: <u>kdavis@rianalytical.com & jjencks@rianalytical.com</u>			
A. (1) Analysis = ☐ PLM, Asbestos (EPA 600/R-93/116); ☐ PLM NOB as needed; ☐ 400 point count if friable and <10% ASB; ☐ TEM NOB ☒ Sample Homogenization (Turbula Mixer/Riffle Splitter) and ☒ TEM by EPA/600/R-93/116 with Milling Prep Level B (reporting limit to 0.1%)			
(2) TAT = <u>2 Week</u> (3) No. samples submitted = <u>1</u> ; (4) ☐ Y or ☐ N - Positive stop by Homogeneous # shown.			
Notes: Homogenize entire sample			
RELINQUISHED BY: (SIGNATURE) <u>Danny R. Mullen</u>	DATE/TIME 01/25/23 10:47	RECEIVED BY: (SIGNATURE) <u>Daniel Stepp</u>	DATE/TIME 2-7-23 9:30 am
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order: 042303163

Customer ID: RIA50

Customer PO: EAM#2022221

Project ID:

Attention: Ken Davis
R.I. Analytical
41 Illinois Avenue
Warwick, RI 02888

Phone: (401) 737-8500
Fax: (401) 738-1970
Received: 02/07/2023 9:30 AM
Analysis Date: 02/23/2023
Collected: 01/25/2023

Project: City Of Woonsocket Depart. Of Planning & Development / 9 Cumberland Hill Rd. Woonsocket, RI 02895 / Animal Shelter / 2022221

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy and Milling Prep. Quantitation using 400 Point Count Procedure.

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1 042303163-0001	CMU Exterior Walls - Vermiculite Material (Brown) From Cavities In CMU Block Walls - 3 Source Points (1A, 1B, 1C)	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected

Analyst(s)

Quynh Vu (1)

Samantha Rundstrom, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. EMSL suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 02/21/2023 20:34:23

042303163 Revised



R.I. ANALYTICAL
41 Illinois Avenue - Warwick, RI 02888
P: (401) 737-8500 F: (401) 732-8034

SAMPLE DATA SHEET & CHAIN OF CUSTODY

Project: City of Woonsocket Depart. of Planning & Development		Client PO #:	EAM#2022221
Address: 9 Cumberland Hill Rd, Woonsocket, RI 02895		RI Analytical EAM Project #:	2022221
Area: Animal Shelter		RI Analytical Work Order #:	
Sampled By: Danny Mullen	License # AI00963	Inspection date: 01/25/23	Page 1 of 1

Line	Sample #	Description	Location	Notes
1	1	Vermiculite material (brown) from cavities in CMU block wall - 3 source points (1A, 1B, 1C)	CMU exterior walls	
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2023 FEB - 7 AM 11:57

12ms

COMMENTS: Email report to: Name: Kenneth Davis; Email to: kdavis@rianalytical.com & jjencks@rianalytical.com

A. (1) Analysis = ☐ PLM, Asbestos (EPA 600/R-93/116); ☐ PLM NOB as needed; ☐ 400 point count if friable and <10% ASB; ☐ TEM NOB
☒ Sample Homogenization (Turbula Mixer/Riffle Splitter) and ☒ TEM by EPA/600/R-93/116 with Milling Prep Level B (reporting limit to 0.1%)
 (2) TAT = 2 Week (3) No. samples submitted = 1; (4) ☐ Y or ☐ N - Positive stop by Homogeneous # shown.

Notes: Homogenize entire sample

RELINQUISHED BY: (SIGNATURE) <i>Danny R. Mullen</i>	DATE/TIME 01/25/23 10:47	RECEIVED BY: (SIGNATURE) <i>Daniel Step</i>	DATE/TIME 2-7-23 9:30 am
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME

Sample Locations Sketch

Name: CITY OF Woonsocket Animal Shelter Assignment: 2022221 Date: 12-15-22 Period: _____

