



Cira and Associates Consulting LLC

468 Williams Road • Morgantown, WV 26501 • (304) 983-2656

Ciraconsulting.com

Suspect Asbestos Containing Building Materials Survey

**Valley Crossing Storage Structure
Whitmore Park
Morgantown, WV 26505**

Prepared For:

Mr. Thomas Moore
BOPARC
287 Eureka Drive
Morgantown, WV 26505

Prepared By:

Cira and Associates Consulting LLC
468 Williams Road
Morgantown, WV 26501
C&A Project No. CAC23218

Date:

November 17, 2023

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1.0 INTRODUCTION

Cira and Associates Consulting LLC (C&A) of Morgantown, WV performed an asbestos inspection and bulk sampling event for the purpose of verifying the presence of asbestos in common building materials at the valley crossing storage structure located at Valley Crossing within Whitmore Park in Morgantown, West Virginia. The survey was initiated to identify and quantify Asbestos Containing Building Materials (ACBMs) prior to beginning demolition activities.

C&A personnel conducted the inspection and bulk sampling on October 10, 2023. Table 1 provides a summary of materials sampled (suspect ACBMs) with sample results. Table 2 provides a summary of quantities and conditions of the confirmed asbestos containing materials (ACMs).

The survey included sampling and documentation of observations from the exterior and interior of the structure. Figure 1 illustrates the sampling locations of the structure and Figure 2 depicts the ACM locations within the structure.

2.0 ASBESTOS DESCRIPTION

The Occupational Safety and Health Administration (OSHA) defines an ACM as any material containing greater than 1% asbestos. The following list is provided as a general guide to show which types of materials may typically contain asbestos. It is noted that this list does not include every product that may contain asbestos:

- Cement wallboard and siding.
- Vinyl floor tile / vinyl sheet flooring.
- Mastic adhesives (floor tile, carpet, etc.).
- Plaster, wallboard, joint compound, spackling compound.
- Roof shingles, felt, flashing, tar (patch).
- Fire proofing materials.
- HVAC ductwork insulation, HVAC ductwork fabric connections.
- Electrical panel partitions, electrical wiring insulation.
- Window caulking, window putty (glazing).
- Spray-in insulation.

The Environmental Protection Agency (EPA) has issued rules concerning the application, removal and disposal of ACMs. These rules were issued under The National Emission Standards for Hazardous Air Pollutants (NESHAP).

3.0 SUSPECT BULK ACM SURVEY

On October 10, 2023, C&A's Project Manager, Mr. Joseph Bonasso collected bulk samples of suspected ACBMs. Mr. Bonasso is a West Virginia Licensed Asbestos Building Inspector (WV License Number AI010590). Mr. Eric Bubb, C&A's Environmental Scientist, assisted Mr. Bonasso in collecting the bulk samples. Mr. Bubb is a West Virginia Licensed Asbestos Building Inspector (WV License Number AI010188). C&A personnel collected bulk samples in accordance with state-of-the-art protocols and methodologies presented by Asbestos Hazards Emergency Response Act (AHERA) / National Emission Standard for Hazardous Air Pollutants (NESHAP). Certifications are included in Appendix 1.

The following activities were performed as part of this survey:

- Visual and physical examination of the structure to identify suspected ACBMs.
- Diagram sample locations from the exterior and interior of the structure.
- Identification of homogenous materials (areas or materials which appear similar throughout, in terms of color, texture and date of application).
- Individual bulk material samples were placed in sealed containers, marked with identifying numbers, logged and shipped, under appropriate chain of custody, to International Asbestos Testing Laboratories, Inc. (IATL) for confirmatory analysis.

Sample locations were determined by identifying suspected ACBMs within and on the exterior of the structure. The general construction of this building is provided as follows:

Exterior:

- The exterior is concrete block.
- The foundation is concrete slab on grade.
- The roof is a pitched metal roof over a flat, built-up roof system.

Interior:

- **Main Areas/Structure**
 - The floor is concrete.
 - The walls are concrete and concrete block. There is a drywall dividing wall in the bay area.
 - The ceiling is concrete.

- **Office**
 - The floor is concrete.
 - The walls are drywall.
 - The ceiling drywall.

- **Mezzanine**
 - The floor is metal.
 - The walls are concrete block.
 - The ceiling is concrete.

Homogenous materials were identified with samples taken of each homogenous material. Surfactant was applied to the surface of the material being sampled prior to collection. This is done to minimize the potential for fiber release.

4.0 SUSPECT BULK ACM ANALYSIS

All subsequent ACBM samples were analyzed via Polarized Light Microscopy (PLM) with available dispersion staining techniques (EPA Method 600/R-93/116) by IATL located in Mt. Laurel, New Jersey. Materials reported <10 % by PLM Method were analyzed by the Stratified Point Count Method. Documentation of bulk sample analysis is provided for all pertinent sampled materials (Table 1). Laboratory results are included in Appendix 2.

5.0 RESULTS

A total of fourteen (14) samples of materials that may be disturbed during demolition activities were collected by C&A and submitted for laboratory analysis. Under microscopic examination performed by the 3rd Party Laboratory, eighteen (18) total samples were analyzed, which included sample subsets unable to be identified without microscopic examination. Independent 3rd Party analysis was performed by IATL. Suspect ACBMs that may be disturbed during demolition

activities consisted of window glazing, drywall and joint compound, chimney tar, and roofing materials.

Materials in the submitted samples that were found to contain more than 1% asbestos by laboratory analysis are as follows:

- Approximately 1,400 ft.² of ACM black flashing on the parapet wall around the perimeter of the flat roof on the structure.
- Approximately 24 linear feet of ACM light tan window glazing located on three rear windows in bay 2 area.

6.0 RECOMMENDATIONS AND CONCLUSIONS

As noted in Section 5.0, two (2) of the sampled homogeneous materials identified as suspect ACMs contained asbestos in amounts greater than 1%. Abatement contractors should physically verify the location and quantities of all ACMs identified within this report. Table 1 is a summary of the survey results while Table 2 describes the material locations and estimated quantities of the confirmed ACMs. Figure 1 illustrates the sample locations and Figure 2 depicts the approximate locations of the ACMs.

As required by West Virginia Division of Health Legislative Rules Title 64 Series 63 (1998), C&A recommends the confirmed ACMs be removed from the above detailed location prior to conducting any demolition or renovation activities that may disturb the material. West Virginia State Law requires asbestos removal to be performed by personnel trained and licensed in asbestos abatement activities. Abatement must be performed in accordance of the West Virginia Division of Health Legislative Rules Title 64 Series 63, OSHA Asbestos Construction Standard 29 CFR 1926.1101 and the EPA Asbestos NESHAP guidelines 40 CFR 61, Subpart M.

A Notification of Abatement, Demolition or Renovation form must be submitted and a 10-day notice given to the regulating agencies before any abatement can begin on this project. Local agencies should be contacted regarding additional permits that may be required.

7.0 REPORT QUALIFICATIONS

The activities and evaluations used in this report are consistent with those normally employed in asbestos surveys. The evaluation of site conditions has been based on our understanding of the site

and limited in that only suspect ACBMs, safely accessible and unobstructed, were sampled and analyzed.

Cira and Associates Consulting LLC cannot warrant the actual site conditions described in this report beyond the initial sample location, time, and date of the survey in that future alterations and conditions of the subject building may occur or changes in environmental regulations may take place.

Should you have any questions please contact us at (304) 983-2656.

Sincerely,

Cira and Associates Consulting LLC



Joseph Bonasso

Project Manager

WV Asbestos Inspector No. AI010590



Eric Bubb

Environmental Scientist

WV Asbestos Inspector No. AI010188

TABLES

Table 1: Asbestos Assessment Sampling Results
Valley Crossing Storage Structure
Whitmore Park
Morgantown, WV 26505
Sample Date: 10/10/2023 Project Number: CAC23218
Laboratory Analysis Method: EPA/R-93/116

C&A Sample Number	Homogenous Material	Sample Location	Laboratory's Material Description	Analytical Results % Asbestos
CAC23218-01	Rear Window Glazing	Bay 2	Lt Tan Glazing	<i>PC 1.7 Chrysotile</i>
CAC23218-02				<i>SNA</i>
CAC23218-03	Old Drywall-Joint Compound	Office	Lt Tan Drywall	ND
			White Joint Compound (Layer 2)	ND
CAC23218-04			Lt Tan Drywall	ND
			White Joint Compound (Layer 2)	ND
CAC23218-05	New Drywall-Joint Compound	Bay 3	Lt Tan Drywall	ND
			White Joint Compound (Layer 2)	ND
CAC23218-06			Lt Tan Drywall	ND
			White Joint Compound (Layer 2)	ND
CAC23218-07	Grey Window Glazing	Bay 4	Grey Glazing	ND
CAC23218-08		Bathroom		ND
CAC23218-09	Black Chimney Tar	Storage Room Roof	Black Tar	ND
CAC23218-10				ND
CAC23218-11	Roof Flashing	Main Roof	Black Flashing	<i>PC 1.2 Chrysotile</i>
CAC23218-12				<i>SNA</i>
CAC23218-13	Built-Up Roof	Main Roof	Black Roof Material	ND
			Black Tar (Layer 2)	ND
CAC23218-14			Black Roof Material	ND
			Black Tar (Layer 2)	PC 0.25 Chrysotile

Notes:

PC = Point Count Method

Bolded and Shaded cells indicate asbestos content >1%

SNA = Sample Not Analyzed because the material was determined to be asbestos-containing in a prior sample

ND = None Detected

Table 2: Asbestos Containing Building Materials (Condition Quantity)
Valley Crossing Storage Structure
Whitmore Park
Morgantown, WV 26505
Sample Date: 10/10/2023 Project Number: CAC23218

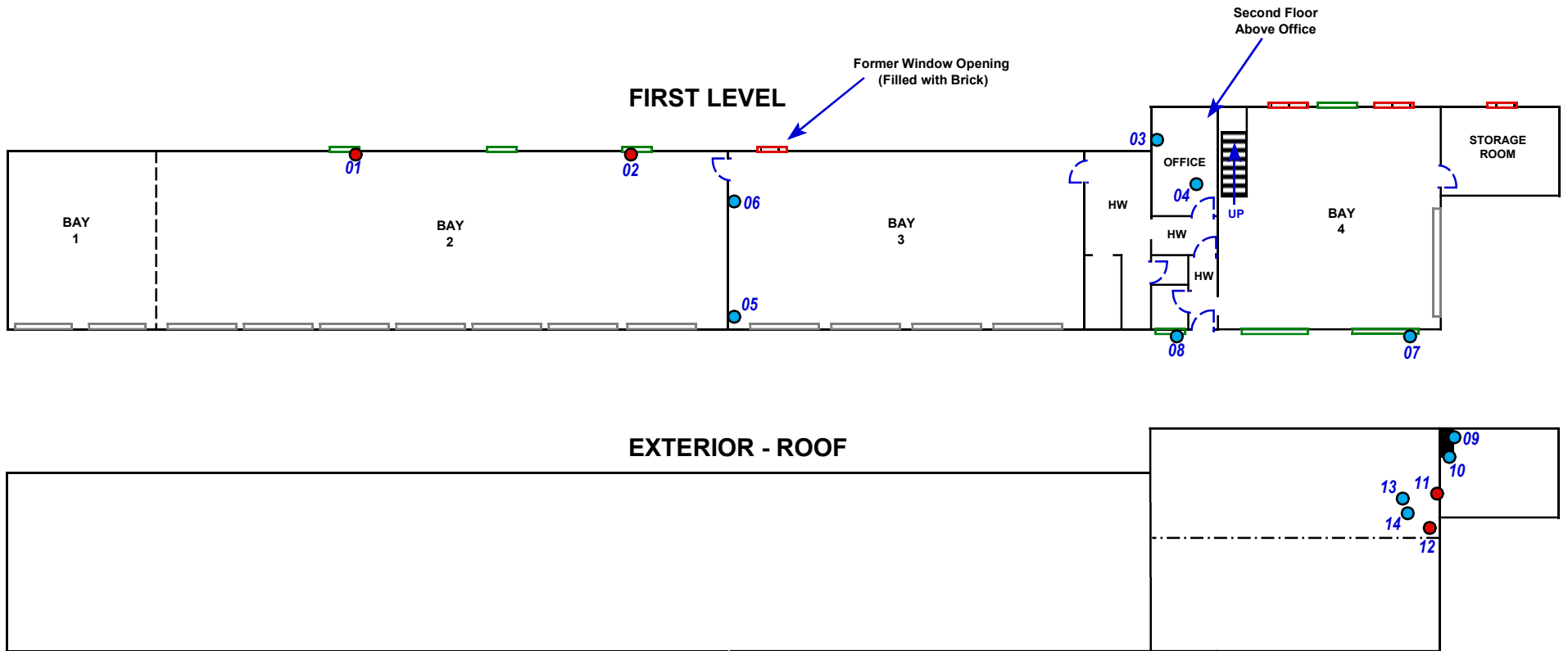
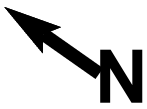
Material Description	Material Location	Estimated Quantity	Condition	C&A Sample Number
Rear Window Glazing	Bay 2 (3 Windows)	24 LF	Poor	CAC23218-01 CAC23218-02
Roof Flashing	Parapet Wall on Original Roof	1,400 SF	Fair to Poor	CAC23218-11 CAC23218-12

Notes:

SF = Square Feet

LF = Linear Feet

FIGURES



- Positive Sample
- Negative Sample

Scale Approximate
For Illustration Purposes On

* Last 2 digits of sample location correspond with the last 2 digits of C&A sample number on Table 1



Cira and Associates Consulting LLC

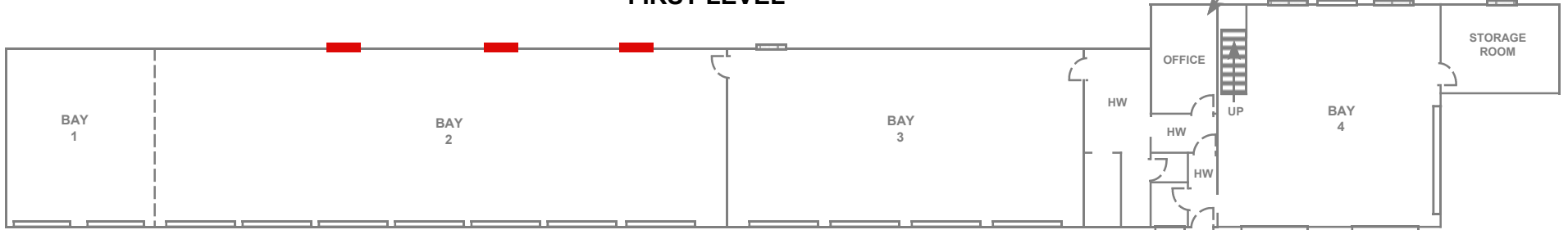
Sample Locations
Valley Crossing Storage Structure
Whitmore Park
Morgantown, WV

Figure 1

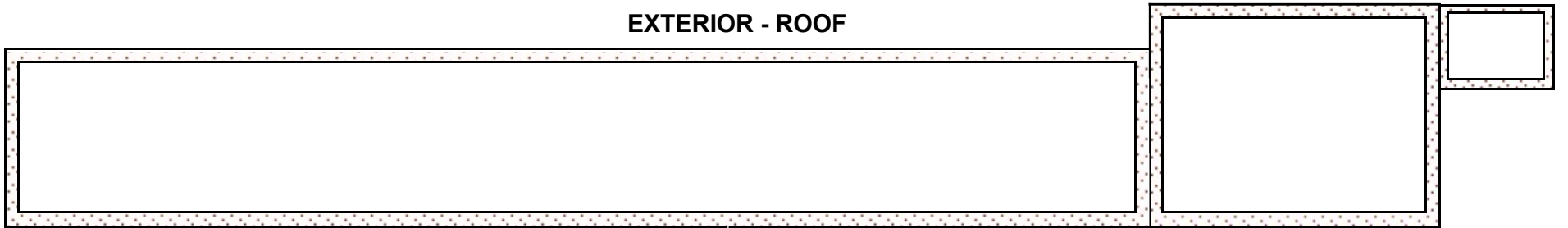
C&A Project No.
CAC23218





FIRST LEVEL



EXTERIOR - ROOF



 ACM Rear Window Glazing

 ACM Black Roof Flashing

Scale Approximate
For Illustration Purposes On



Cira and Associates Consulting LLC

ACM Locations
Valley Crossing Storage Structure
Whitmore Park
Morgantown, WV

Figure 2


C&A Project No.
CAC23218

APPENDIX 1
CERTIFICATIONS

Professional Training Associates, Inc.

ASBESTOS BUILDING INSPECTOR Refresher Training Course

Eric M. Bubb

	WEST VIRGINIA
	Asbestos Program
	Eric M. Bubb
	IS LICENSED AS AN ASBESTOS INSPECTOR
License #:	AI010188
Issued:	6/13/2023
Expires:	6/30/2024
	<i>Jason Frame</i> Director WV OEHS

has successfully completed the Asbestos Building Inspector Refresher Course and passed the course examination for purposes of accreditation under Section 206 of Title II of the Toxic Substance Control Act (TSCA). Conducted by Professional Training Associates, Inc., 46 South Linden Street, Suite C, Duquesne, PA 15110, (412) 460-0266.

BUBBERZ
BIR050423DUQUESN

Location: **Duquesne, PA**

Examination: **May 4, 2023**

Course Date: **May 4, 2023**

Expiration: **May 4, 2024**

Course Director: *Gregory S. Ashman*
Gregory S. Ashman


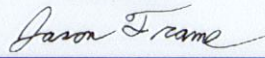
Certificate Number: **PTA 23 - 23-62675**



Professional Training Associates, Inc.

ASBESTOS BUILDING INSPECTOR Refresher Training Course

Joseph M. Bonasso

	WEST VIRGINIA Asbestos Program Joseph M. Bonasso IS LICENSED AS AN ASBESTOS INSPECTOR
License #: AI010590	
Issued: 6/7/2023	
Expires: 6/30/2024	
	Director WV OEHS

has successfully completed the Asbestos Building Inspector Refresher Course and passed the course examination for purposes of accreditation under Section 206 of Title II of the Toxic Substance Control Act (TSCA). Conducted by Professional Training Associates, Inc., 46 South Linden Street, Suite C, Duquesne, PA 15110, (412) 460-0266.

Location: **Virtual Classroom**

Course Date: **May 18, 2023**

Course Director: 
William W. Tomlinson

Examination: **May 18, 2023**

Expiration: **May 18, 2024**

Certificate Number: **PTA 23 - 23-62813**

BONASJO
BIR051823PTAVIRT



APPENDIX 2

Laboratory Results

CERTIFICATE OF ANALYSIS

Client: Cira And Associates Consulting
468 Williams Road
Morgantown WV 25601

Report Date: 10/13/2023
Report No.: 690942 - PLM
Project: BOPARC Valley Crossing
Project No.: CAC23218

Client: CIR863

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7682862	Analyst Observation: Lt Tan Glazing	Location: Bay 2
Client No.: CAC23218-01	Client Description: Rear Window Glazing	Facility:
<u>Percent Asbestos:</u> <i>PC 1.7 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.3

Lab No.: 7682863	Analyst Observation: Sample Not Analyzed	Location: Bay 2
Client No.: CAC23218-02	Client Description: Rear Window Glazing	Facility:
<u>Percent Asbestos:</u> <i>Sample Not Analyzed</i>	<u>Percent Non-Asbestos Fibrous Material:</u> Sample Not Analyzed	<u>Percent Non-Fibrous Material:</u>

Lab No.: 7682864	Analyst Observation: Lt Tan Drywall	Location: Office
Client No.: CAC23218-03	Client Description: Old Drywall-Joint Compound	Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 15 Cellulose	<u>Percent Non-Fibrous Material:</u> 85

Lab No.: 7682864(L2)	Analyst Observation: White Joint Compound	Location: Office
Client No.: CAC23218-03	Client Description: Old Drywall-Joint Compound	Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7682865	Analyst Observation: Lt Tan Drywall	Location: Office
Client No.: CAC23218-04	Client Description: Old Drywall-Joint Compound	Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 15 Cellulose	<u>Percent Non-Fibrous Material:</u> 85

Lab No.: 7682865(L2)	Analyst Observation: White Joint Compound	Location: Office
Client No.: CAC23218-04	Client Description: Old Drywall-Joint Compound	Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/12/2023
Date Analyzed: 10/13/2023
Signature:
Analyst: Ellen Smith

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Cira And Associates Consulting
468 Williams Road
Morgantown WV 25601

Report Date: 10/13/2023
Report No.: 690942 - PLM
Project: BOPARC Valley Crossing
Project No.: CAC23218

Client: CIR863

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7682866 **Analyst Observation:** Lt Tan Drywall **Location:** Bay 3
Client No.: CAC23218-05 **Client Description:** New Drywall-Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 20 Cellulose 80

Lab No.: 7682866(L2) **Analyst Observation:** White Joint Compound **Location:** Bay 3
Client No.: CAC23218-05 **Client Description:** New Drywall-Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100


Lab No.: 7682867 **Analyst Observation:** Lt Tan Drywall **Location:** Bay 3
Client No.: CAC23218-06 **Client Description:** New Drywall-Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 20 Cellulose 80

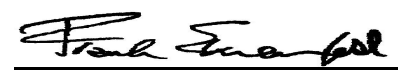
Lab No.: 7682867(L2) **Analyst Observation:** White Joint Compound **Location:** Bay 3
Client No.: CAC23218-06 **Client Description:** New Drywall-Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7682868 **Analyst Observation:** Grey Glazing **Location:** Bay 4
Client No.: CAC23218-07 **Client Description:** Grey Window Glazing **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7682869 **Analyst Observation:** Grey Glazing **Location:** Bathroom
Client No.: CAC23218-08 **Client Description:** Grey Window Glazing **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/12/2023
Date Analyzed: 10/13/2023
Signature: 
Analyst: Ellen Smith

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Cira And Associates Consulting
468 Williams Road
Morgantown WV 25601

Report Date: 10/13/2023
Report No.: 690942 - PLM
Project: BOPARC Valley Crossing
Project No.: CAC23218

Client: CIR863

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7682870 **Analyst Observation:** Black Tar **Location:** Storage Room Roof
Client No.: CAC23218-09 **Client Description:** Black Chimney Tar **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 7 Cellulose 93

Lab No.: 7682871 **Analyst Observation:** Black Tar **Location:** Storage Room Roof
Client No.: CAC23218-10 **Client Description:** Black Chimney Tar **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 5 Cellulose 95


Lab No.: 7682872 **Analyst Observation:** Black Flashing **Location:** Main Roof
Client No.: CAC23218-11 **Client Description:** Roof Flashing **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
PC 1.2 Chrysotile 13 Cellulose 85.8

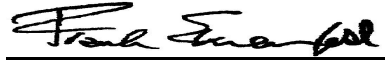
Lab No.: 7682873 **Analyst Observation:** Sample Not Analyzed **Location:** Main Roof
Client No.: CAC23218-12 **Client Description:** Roof Flashing **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
Sample Not Analyzed Sample Not Analyzed

Lab No.: 7682874 **Analyst Observation:** Black Roof Material **Location:** Main Roof
Client No.: CAC23218-13 **Client Description:** Built-Up Roof **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 4 Cellulose 96

Lab No.: 7682874(L2) **Analyst Observation:** Black Tar **Location:** Main Roof
Client No.: CAC23218-13 **Client Description:** Built-Up Roof **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 15 Cellulose 85

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/12/2023
Date Analyzed: 10/13/2023
Signature: 
Analyst: Ellen Smith

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Cira And Associates Consulting
468 Williams Road
Morgantown WV 25601

Report Date: 10/13/2023
Report No.: 690942 - PLM
Project: BOPARC Valley Crossing
Project No.: CAC23218

Client: CIR863

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7682875
Client No.: CAC23218-14

Analyst Observation: Black Roof Material
Client Description: Built-Up Roof

Location: Main Roof
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
5 Cellulose

Percent Non-Fibrous Material:
95

Lab No.: 7682875(L2)
Client No.: CAC23218-14

Analyst Observation: Black Tar
Client Description: Built-Up Roof


Location: Main Roof
Facility:

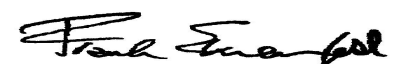
Percent Asbestos:
PC 0.25 Chrysotile

Percent Non-Asbestos Fibrous Material:
15 Cellulose

Percent Non-Fibrous Material:
84.75

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/12/2023
Date Analyzed: 10/13/2023
Signature: 
Analyst: Ellen Smith

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Cira And Associates Consulting
468 Williams Road
Morgantown WV 25601

Report Date: 10/13/2023
Report No.: 690942 - PLM
Project: BOPARC Valley Crossing
Project No.: CAC23218

Client: CIR863

Appendix to Analytical Report

Customer Contact: CJ Cira

Method: 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, USEPA 600, R93-116 and NYSDOH ELAP 198.1 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com

iATL Office Manager: wchampion@iatl.com

iATL Account Representative: Shirley Clark

Sample Login Notes: See Batch Sheet Attached

Sample Matrix: Bulk Building Materials

Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB) See additional information at the end of this appendix.

CERTIFICATE OF ANALYSIS

Client: Cira And Associates Consulting
468 Williams Road
Morgantown WV 25601

Report Date: 10/13/2023
Report No.: 690942 - PLM
Project: BOPARC Valley Crossing
Project No.: CAC23218

Client: CIR863

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at customerservice@iatl.com.

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
- 16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: "ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite."

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite (https://www.wadsworth.org/sites/default/files/WebDoc/I198_8_02_2.pdf)

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% for most samples.

CERTIFICATE OF ANALYSIS

Client: Cira And Associates Consulting
468 Williams Road
Morgantown WV 25601

Report Date: 10/13/2023
Report No.: 690942 - PLM
Project: BOPARC Valley Crossing
Project No.: CAC23218

Client: CIR863

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.

*With advance notice and confirmation by the laboratory.

**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

New York State Department of Health requires that samples originating from NYS that they categorize as Non-friable Organically Bound materials can only be confirmed as None Detected for asbestos by method 198.4. See the table below for a list of those materials. (ENVIRONMENTAL LABORATORY APPROVAL PROGRAM CERTIFICATION MANUAL - ITEM No. 198.1, Revision Date 5/6/16)

*Asphalt Shingles, Caulking, Ceiling Tiles with Cellulose, Duct Wrap, Glazing, Mastic, Paint Chips, Resilient Floor Tiles, Rubberized Asbestos Gaskets, Siding Shingles, Vinyl Asbestos Tile, NOB materials (other than SM-V) with <10% vermiculite, Any material (Friable or NOB other than SM-V) with >10% vermiculite.

Statistically derived uncertainty with any measure should be taken into consideration when reviewing and interpreting all reported data and results. A more comprehensive listing of accuracy, precision, and uncertainty as it impacts this method is available upon request.



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www.iatl.com

Chain of Custody

Client: Cira and Associates Consulting LLC
468 Williams Road
Morgantown, WV 26501

Project Name: BOPARC Valley Crossing
Project No.: CAC23218

Office Phone: (304) 983-2656
Cell Phone: (304) 692-2923
FAX / Email 1: cjc@ciraconsulting.com

Contact 1: C.J. Cira
Contact 2: Eric Bubbs
FAX / Email 2: eric@ciraconsulting.com

Special Instructions: Please email results to both Contact 1 and Contact 2. For any multi-layer samples, please stop at first positive for each individual layer separately. Thanks!!

Matrix:

- Air Soil Bulk Other
 Water Paint Surface Dust / Wipe

Analysis Method:

- | | | |
|--|---|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | See Page 2 for Bulk Asbestos Specific Log | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input checked="" type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : TWA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : Dust / Wipe |
| <input type="checkbox"/> AAS : Lead in Air | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : Dust / Microvac |
| <input type="checkbox"/> AAS : Lead in Water | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 ² | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Lead in Paint | <input type="checkbox"/> PLM : See page 2 for instructions | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : Lead Dust/Wipe ¹ | See Page 4 for Mold Specific Log | <input type="checkbox"/> TEM : Potable Water |
| <input type="checkbox"/> AAS : Lead in Soil | <input type="checkbox"/> IAQ: I Bioaersol Fungal Spore Trap ³ | <input type="checkbox"/> TEM : Non-Potable Water |
| <input type="checkbox"/> AAS : TCLP | <input type="checkbox"/> IAQ: II Bioaersol Fungal Spore Trap ⁴ | <input type="checkbox"/> TEM : Other |
| <input type="checkbox"/> AAS : Metals (Cd, Zn, Cr) | <input type="checkbox"/> IAQ: Tape, Bulk, Misc. Qualitative ³ | <input type="checkbox"/> Total Dust : NIOSH 0500 |
| | <input type="checkbox"/> IAQ: Tape, Bulk, Misc. Quantitative ³ | <input type="checkbox"/> Total Dust : NIOSH 0600 |
| | <input type="checkbox"/> IAQ: Other Culturable ID ² | |

1- Requires ASTM acceptable material 2- Call to confirm TAT 3- Non-culturable 4- With Non-fungal Microscopic Exam

Turnaround Time:

Preliminary Results Requested By... _____ Verbals FAX Email
date / time

- 10 Day 5 Day 3 Day 2 Day 1 Day* 12 Hour** 6 Hour** RUSH**

* End of next business day unless otherwise specified. ** Matrix Dependent. Please notify the lab before shipping.

Sample Numbers:

Client #(s): CAC23218-01 - CAC23218-14 IATL#(s): _____ - _____ Total: _____
(start) (end) (start) (end)

Please use your sample log to supply sampling information (ex. Volumes, areas, descriptions, locations, etc.) or download forms at iatl.com

Chain of Custody:

Relinquished (Name / Organization): <u>E. M. B. / CIRA AND ASSOCIATES</u>	Date: <u>10-10-23</u>	Time: <u>1:00</u>
Received (Name / IATL): _____	Date: _____	Time: _____
Sample Login (Name / IATL): _____	Date: _____	Time: _____
Sample Prep (Name / IATL): _____	Date: <u>10/15/23</u>	Time: _____
Analysis (Name(s) / IATL): _____	Date: _____	Time: _____
QA/QC Review (Name / IATL): _____	Date: _____	Time: _____
Archived / Released: _____	Date: _____	Time: _____
QA/QC InterLAB Use: _____		

IATL - By _____



Chain of Custody

- Bulk Asbestos Sample Log -

Client: Cira and Associates Consulting LLC

Project Name: BOPARC Valley Crossing
Project No.: CAC23218

PLM Special Instructions:

- PLM : Bulk Asbestos Building Materials EPA 600 / R 93-116
- PLM : Point Counting
 - PC : via ELAP 198.1
 - PC : 400 Points
 - PC : 800 Points *
 - PC : 1600 Points *
- PLM : Gravimetric Reduction
 - PLM : NOB via 198.1
 - PLM : Friable via EPA 600 2.3
 - If <1% by PLM, to TEM via 198.4 *
 - If <1% by PLM, Hold for Instructions
- PLM : Analyze Until Positive (Positive Stop)
 - AUP : by Homogenous Area as Noted
 - AUP : by Material Type as Noted
- PLM : Non-Building Material *, **(Dust, Wipe, Tape, Soil)
 - Soil or Vermiculite Analysis *, **
- PLM: Instructions for Multi-Layered Samples
 - Analyze and Report All Separable Layers per EPA 600
 - Report Composite for Drywall Systems per NESHAP
 - Report All Layers and Composite Where Applicable
 - Only Analyze and Report Specifically Noted Layer

* Additional charge and turnaround may be required. ** Alternative Method (ex: EPA 600/R-04/004) may be recommended by Laboratory.

Sampling Date: 10/10/23

Client Sample ID:	IATL Sample ID:	Sample Description / Location	Notes
CAC23218-01	7682862	Rear Window Glazing / Bay 2	HA-1; stop @ 1st +
CAC23218-02	7682863	Rear Window Glazing / Bay 2	HA-1; stop @ 1st +
CAC23218-03	7682864	Old Drywall-Joint Compound / Office	HA-2; stop @ 1st +
CAC23218-04	7682865	Old Drywall-Joint Compound / Office	HA-2; stop @ 1st +
CAC23218-05	7682866	New Drywall-Joint Compound / Bay 3	HA-3; stop @ 1st +
CAC23218-06	7682867	New Drywall-Joint Compound / Bay 3	HA-3; stop @ 1st +
CAC23218-07	7682868	Gray Window Glazing / Bay 4	HA-4; stop @ 1st +
CAC23218-08	7682869	Gray Window Glazing / Bathroom	HA-4; stop @ 1st +
CAC23218-09	7682870	Black Chimney Tar / Storage Room Roof	HA-5; stop @ 1st +
CAC23218-10	7682871	Black Chimney Tar / Storage Room Roof	HA-5; stop @ 1st +
CAC23218-11	7682872	Roof Flashing / Main Roof	HA-6; stop @ 1st +
CAC23218-12	7682873	Roof Flashing / Main Roof	HA-6; stop @ 1st +
CAC23218-13	7682874	Built-up Roof / Main Roof	HA-7; stop @ 1st +
CAC23218-14	7682875	Built-up Roof / Main Roof	HA-7; stop @ 1st +

APPENDIX 3

Photo Documentation



Photo of the ACM window glazing located on the rear window of bay 2 area.
(CAC23218-01)



Photo of the ACM window glazing located on the rear window of bay 2 area.
(CAC23218-02)



Photo of the ACM black flashing on the parapet wall of the original roof located under the metal roof. (CAC23218-11)