



LIMITED ASBESTOS SURVEY REPORT

**El Paso County
Public Health
6436 US Highway 85/87
Colorado Springs, Colorado**

Prepared for:

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Prepared by:

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Apex Project No. 6033

September 28, 2021

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EXECUTIVE SUMMARY

The El Paso County retained Apex Companies, LLC (Apex) to conduct limited asbestos containing materials (ACM) survey of materials selected by the client within the Department of Health Building located at 6436 US HWY 85/87, Colorado Springs, Colorado. The scope of this inspection was to obtain bulk samples of suspect flooring materials to identify ACM in preparation for a proposed renovation project. The Environmental Protection Agency (EPA) defines ACM as a material containing greater than one percent asbestos. Both friable and non-friable materials were sampled. A friable material is a material that, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. Because friable materials are more easily damaged and more likely to release fibers into the air, they are of greater concern than non-friable ACM.

The interior areas of the Public Health Building were surveyed for suspect ACMs that may be damaged or disturbed during renovation activities. Sixteen (16) bulk samples were collected from identified suspect ACMs and analyzed by polarized light microscopy (PLM).

Findings:

- Asbestos was reported in black mastic under existing flooring containing 4-15% Chrysotile asbestos.

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1.0 INTRODUCTION

El Paso County retained Apex Companies, LLC (Apex) to conduct an asbestos containing materials (ACM) survey of suspect materials, that may be disturbed by proposed renovation at the Public Health Building located in Fountain, Colorado. The complete listing of the additional suspect materials sampled for this inspection is provided in **Appendix A**. A Sample and Asbestos Location Drawing is provided in **Appendix B**.

On July 29 and August 17, 2021, Apex representative Mr. Chris Thompson conducted the inspection, assessment, and bulk sampling activities at the facility. Mr. Thompson is a Colorado Department of Public Health and Environment (CDPHE)-certified Asbestos Building Inspector. Certifications are provided in **Appendix C**.

1.1 Building Description

The Public Health facility is a single story building measuring approximately 50,000 square feet. The original construction date is circa 1970s. Flooring finishes consist of floor tiles and carpet on concrete.

2.0 ASBESTOS DEFINITIONS AND CLASSIFICATIONS

The Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) and Colorado Regulation No. 8, Part B regulations for asbestos apply to certain demolition and renovation projects in facilities containing ACM and/or assumed ACM. The NESHAP rule and Colorado Regulation No. 8, Part B usually require that all friable ACM and some categories of non-friable ACM be removed before a building is demolished, and may require localized removal before, or as part of, a renovation. For renovation projects where friable ACM will be disturbed, the NESHAP rule and Colorado Regulation No. 8, Part B may require appropriate work practices or procedures for the control of emissions. The following EPA NESHAP definitions of ACM are important in interpreting which NESHAP requirements apply:

Asbestos Containing Material (ACM) – Commercial asbestos product containing more than 1% asbestos. ACM must be disposed as hazardous waste. Note: Federal Occupational Safety and Health Administration (OSHA) also controls materials containing any amount of asbestos. Materials are considered by the EPA to be asbestos-containing if at least one sample collected from the homogeneous area shows asbestos present in an amount greater than 1%.

Asbestos Containing Building Material (ACBM) – Asbestos Hazard Emergency Response Act (AHERA) and Asbestos School Hazard Abatement Reauthorization Act (ASHARA) term for material containing more than 1% asbestos in or on interior structural members or other structural components. Includes covered walkways, porticos and exterior heating, ventilation, and air conditioning (HVAC) thermal system insulation (TSI).

Presumed Asbestos Containing Material (PACM) - OSHA considers all TSI and surfacing materials installed prior to 1980 to be ACM unless proven otherwise.

Friable - ACM that can be crumbled pulverized or reduced to powder by hand pressure when dry.

Trigger Levels - Means amounts of material as follows: with regard to single-family residential dwellings, the trigger levels are 50 linear feet on pipes, 32 square feet on other surfaces, or the volume equivalent of a 55-gallon drum. All areas other than single-family residential dwellings, the trigger levels are 260 linear feet on pipes, 160 square feet on other surfaces, or the volume equivalent of a 55-gallon drum.

Categories of Asbestos Used BY EPA AHERA/ASHARA and OSHA

Thermal system insulation (TSI) means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

Surfacing material means material that is sprayed, troweled-on or otherwise applied to surfaces such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes. *NOTE: OSHA does not classify joint compound / taping mud, floor tile mastic, stucco, leveling compound, and hard wall plasters as surfacing material.*

Miscellaneous material means interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or TSI.

NESHAPS Categories for Asbestos for Renovation and Demolition

- *Category I non-friable asbestos-containing material:* means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- *Category II non-friable asbestos-containing material:* means any material excluding Category I nonfriable ACM, containing more than 1% asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- *Regulated asbestos-containing material* (RACM): means (1) friable ACM, (2) Category I nonfriable ACM that has become friable, (3) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (4) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the materials in the course of demolition or renovation operations regulated by NESHAP.

3.0 ASBESTOS ASSESSMENT AND BULK SAMPLING METHODOLOGY

Apex collected samples of suspect materials that the client requested prior to a planned renovation of the gift shop. Survey and assessment protocols used were based on those adopted by the EPA, as detailed in the AHERA, 40 Code of Federal Regulations (CFR) 763, Subpart E, as referenced in the OSHA Asbestos in Construction Standard (29 CFR 1926.1101). Asbestos bulk samples were collected and analyzed using the EPA's AHERA protocol, as follows (note modifications for floor tiles and mastic samples):

- Sampling locations were chosen in a randomly distributed manner.
- All layers of suspected ACMs were sampled, with sample integrity maintained.
- Wherever possible, samples were collected from damaged areas to minimize fiber release.
- Each sample was placed in a clear plastic container, sealed, and labeled with a unique sample number. This number, along with other pertinent information, was recorded on the bulk sample chain of custody and field form.

The AHERA sampling protocol was used to determine the required number of samples for this survey based on function (surfacing, TSI, or miscellaneous materials) and homogeneous building materials. A homogeneous area is defined as an area where a suspect material is uniform in texture, color, and appears

to be identical in every respect. Even if a material appears to be identical, but is found installed at different time periods, it would be treated as a different suspect material.

Since AHERA became law in the late 1980s, it is considered the standard-of-the-industry approach for building survey assessments and the collection of suspect asbestos bulk samples. The AHERA protocol was used to determine functional areas and subsequent, homogeneous areas of construction in the building. Three forms of asbestos are typically found in buildings:

- (1) Spray- or trowel-applied surfacing materials (spray-on fireproofing and plaster);
- (2) TSI (insulation on pipes, boilers, and other mechanical equipment); and
- (3) Miscellaneous materials such as floor tiles, ceiling tiles, roofing materials, drywall composition, window caulking/glazing, etc.

AHERA recommends the collection of a minimum number of samples for each suspect ACM. Apex generally follows the AHERA sampling protocol for each survey (note modifications for floor tile and mastic samples):

- **Surfacing Materials**
 - <1,000 square feet (SF), 3 samples
 - 1,000 to 5,000 SF, 5 samples
 - > 5,000 SF, 7 or more samples
- **Thermal System Insulation**
 - 3 samples
- **Miscellaneous Materials**
 - 1 to 3 samples based upon the inspector's judgment

The suspect and accessible materials that were observed at the facility were sampled per the protocol, described above. Apex developed a sampling strategy following a walk-through visual inspection of the facility. This approach allowed the inspector to evaluate the construction of the facility, as well as identify suspect homogeneous ACMs for sampling purposes. Once homogeneous suspect materials were identified, Apex began the collection of these materials for submission to a laboratory.

4.0 INSPECTING FOR ACM

The ACM survey was conducted on an area-by-area basis. Suspect materials that were homogeneous in nature (i.e., uniform in color and texture) were identified, touched to determine friability, and sampled by removing a small piece that was then placed in a labeled container. For a given homogeneous area, one or more samples were collected in a randomly distributed manner in accordance with AHERA Provisions (40 CFR 763.86), as referenced in the OSHA Asbestos in Construction Standard (29 CFR 1926.1101). Unless specifically referenced, materials not considered by the AHERA rules as suspect ACMs were not addressed by Apex during this survey.

Materials that were considered suspect were identified and the number of samples to be collected of these suspect materials was determined by the inspector using AHERA protocols. A list of homogeneous building materials identified for this survey is provided below.

Gift Shop

Surfacing materials:

Homogeneous Material
ID

Not sampled per
client request

Homogeneous Locations(s)

Thermal system insulation (TSI):

Homogeneous Material
ID

Not sampled per
client request

Homogeneous Locations(s)

Miscellaneous materials:

Homogeneous Material
ID

6436-FT01	Tan 12-inch floor tile with yellow mastic
6436-MA01	Black Mastic under carpet
6436-MA02	Black Mastic
6436-MA03	Black Mastic
6436-CA01	Yellow Carpet Adhesive
6436-FT02	White 12-inch Floor Tile with Yellow Mastic
6436-MA04	Black Mastic

Homogeneous Locations(s)

Main Hallway 134 East Entry
Room 129
Rooms 117-125
Room 100
Room 102
Hallway 107
Hallway 134

5.0 STANDARD BULK SAMPLE LABORATORY ANALYSES

Bulk samples collected were analyzed utilizing the EPA's Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116, July 1993) and the McCrone Research Institute's The Asbestos Particle Atlas, as method reference. Aerobiology Laboratory Associates, Inc., an independent laboratory accredited by the National Voluntary Accreditation Program (NVLAP) and the American Industrial Hygiene Association (AIHA), analyzed the samples utilizing PLM. The laboratory report is provided in **Appendix D**. Characterization of the entire homogenous material must also consider results from all other samples of the homogeneous material.

Asbestos fiber content is estimated by optically comparing the quantity of non-asbestos material to asbestos fibers. The lower limit of reliable detection using PLM is 1%. Samples that contain more than 1% asbestos are reported in percent ranges. Samples that contain asbestos in a concentration lower than the limit of reliable detection (<1%) are reported as "trace" or "<1%." Samples in which no asbestos is observed are reported as "None Detected."

CDPHE requires verification if the asbestos content of a sample of friable asbestos is estimated to be 1% asbestos or less, but greater than 0%, by a method other than point counting (such as visual estimation). The determination should then be repeated using the point counting technique with PLM. If a result obtained by point count is different from a result obtained by visual estimation, the point count result must be used. Tar impregnated samples do not have to be point counted.

6.0 STATEMENT OF INACCESSIBILITY AND LIMITED ACCESS SPACE

Every reasonable attempt was made to locate ACMs present as TSI, surfacing materials, or other miscellaneous materials in the areas surveyed. During the inspection of the facility, Apex did not inspect underground utilities, energized mechanical, cooler insulation or electrical systems.

If additional suspect materials, not identified in this survey, are discovered during renovation or demolition activities, those materials shall be presumed to be asbestos containing until sampled by a CDPHE-licensed building inspector, in accordance with EPA's AHERA protocols, as described in **Section 2.0**, to determine asbestos content.

7.0 SUMMARY OF ACM FINDINGS FOR RENOVATION AND DEMOLITION

The following tables summarize the ACM survey findings and analytical results for the suspect materials sampled. ACM summary tables are organized to show the homogenous material analyzed, its asbestos content, and approximate quantity.

7.1 Regulated Asbestos-Containing Material (RACM)

Under the EPA NESHAPS, RACM includes any material assumed to contain asbestos; friable ACM; Category I nonfriable ACM that has become friable; Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading; or Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

All RACM, in amounts greater than the trigger levels, must be removed from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal.

RACM

ACM Description	Condition	Type / Friable or Non-Friable	Analytical Result	Approx. Quantity	Homogenous Area(s)
None identified for this limited survey					

7.2 Category I Non-Friable >1%

NESHAP defines Category I material as "asbestos containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos." Mastic that is in good condition and non-friable would fall under Category I material.

The asbestos NESHAP does not require notification of renovation activities where asbestos materials are not being disturbed. If Category I materials are kept in a non-friable condition during removal, transport, and disposal, notification of renovation is not required.

Category I materials may remain in place during demolition projects if the materials are in good condition and the acts of demolition will not render the material friable.

Asbestos Containing Category I Non-Friable >1%

ACM Description	Condition	Type / Friable or Non-Friable	Analytical Result	Approx. Quantity	Homogenous Area(s)
Black Mastic	Good	Nonfriable	8-10% Chrysotile	10,858 SF	MA01 - Room 129
Black Mastic	Good	Nonfriable	6-15% Chrysotile	2,072 SF	MA02 – Rooms 117-125
Black Mastic	Good	Nonfriable	4-15% Chrysotile	1,077 SF	MA03 – Room 100
Black Mastic	Good	Nonfriable	8% Chrysotile	1,508 SF	MA04 – Hallway 134

7.3 Category II Non-Friable >1%

Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1% asbestos as determined by PLM, that when dry cannot be crumbled, pulverized or reduced to powder by hand pressure. Category II asbestos-cement products need to be removed prior to demolition if they have a high probability of becoming crumbled, pulverized, or reduced to powder during demolition activities. EPA believes that most demolition activities will subject Category II nonfriable ACM to the regulation.

Asbestos Containing Category II Non-Friable >1%

ACM Description	Condition	Type / Friable or Non-Friable	Analytical Result	Approx. Quantity	Homogenous Area(s)
None identified for this limited survey					

7.4 Joint Compound/Wallboard Systems

When a joint compound and tape is used to cover nail holes, cracks, wall corners and other minor patch work, it becomes an integral part of the wall system. On September 30, 1994, the EPA published the Asbestos Sampling Bulletin, Supplementary Guidance on Bulk Sample Collection and Analysis, U.S. EPA, OPPT/CMD (7404). This document provides guidance for sampling and analysis of multi-layered wall systems, including wall systems that contain joint compound. Regarding joint compound, the guidance specifies that discrete layers be combined to produce a composite analytical result. If the composite result is less than or equal to 1%, the joint compound is not classified as ACM, and no further analysis is required. If the composite result is greater than 1%, the joint compound is ACM for NESHAPs purposes. Federal OSHA, however, also regulates asbestos removal activities and worker procedures for ACMs. OSHA regulates joint compound that is greater than 1% as a Class II ACM and requires workers to comply with certain provisions of the OSHA Asbestos Construction Standard 29 CFR 1926.1101 and have appropriate training and personal protective equipment. The OSHA asbestos standard is applicable to all renovation and demolition worker activities.

Asbestos Containing Joint Compound/Wallboard Systems

ACM Description	Condition	Type / Friable or Non-Friable	Composite Analytical Result	Approx. Quantity	Homogenous Area(s)
None identified for this limited survey					

*The joint compound/wallboard systems were not composited as all walls were also textured and the separation of joint compound material was not practicable.

7.5 Materials Containing 1% or Less Asbestos

The OSHA Construction Asbestos Standard 29 CFR 1926.1101 contains work practice and engineering control requirements and prohibitions that must be observed regardless of the percentage of asbestos in the installed construction materials

Materials Containing 1% or Less Asbestos

ACM Description	Condition	Type / Friable or Non-Friable	Analytical Result	Approx. Quantity	Homogenous Area(s)
None identified for this limited survey					

A table summarizing all the inspection results and ACM materials is provided in **Appendix A**; photographs of the ACMs are provided in **Appendix E**; and inspector and laboratory certifications are provided in **Appendix C**.

8.0 GENERAL RECOMMENDATIONS

Removal of materials, in amounts exceeding the trigger levels, with an asbestos content of greater than 1% by volume that are friable or will be made friable during renovation or demolition activities, must be conducted in accordance with the CDPHE Regulation No. 8. Friable means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. Regarding facilities other than single-family residential dwellings, the trigger levels are 260 linear feet on pipes, 160 square feet on other surfaces, or the volume equivalent of a 55-gallon drum.

The Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation for asbestos specifies work practices to be followed during demolitions and renovations of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units. Facilities that are being demolished and renovations where regulated quantities of ACM are being removed from a facility are subject to the National Emission Standards for Hazardous Air Pollutants for Asbestos, commonly referred to as the Asbestos NESHAP. The Clean Air Act (CAA) requires EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. EPA established the National Emission Standards.

The OSHA Construction Asbestos Standard 29 CFR 1926.1101 contains work practice and engineering control requirements and prohibitions that must be observed regardless of the percentage of asbestos in the installed construction materials. The employer still must follow the requirements in paragraphs (g)(1) [except (g)(1)(i)], (g)(2) and (g)(3) that describe engineering and work practice controls operation as well as prohibitions that must be observed regardless of the percentage of asbestos in the installed construction materials. The standard also has exposure-based requirements consisting of a 0.1 fiber/cubic centimeter (cc) 8-hour Time Weighted Average (TWA) Permissible Exposure Limit (PEL), and a 1 fiber/cc 30-minute excursion limit.

8.1 Report Findings and Recommendations

Sixteen bulk samples were collected from identified suspect materials in the Public Health Building and analyzed by PLM laboratory analysis.

- Asbestos was reported in black mastic under existing flooring containing 4-15% Chrysotile asbestos.

9.0 DISCLAIMER

This report describes the installed locations and conditions of ACM identified in the facility during the inspection. Apex represents that our services are performed within the limits prescribed by applicable regulations and in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representation is made to the client, expressed or implied, and no warranty or guarantee is included or intended.

If additional suspect materials not identified in this survey are discovered during renovation or demolition activities, those materials shall be presumed to be asbestos containing until sampled by a CDPHE-licensed building inspector, in accordance with EPA's AHERA protocols, as described in **Section 2.0**, to determine asbestos content.

This document is not intended to be used as a bid document for the removal, repair, encapsulation, enclosure, or operation and maintenance (O&M) of asbestos containing materials. Apex can prepare asbestos abatement specifications, scope of work, project design, and bid documents for this project at the client's request. This document describes the locations and conditions of ACM identified in the facility during the inspection. This report is limited to the scope of work identified in this report and should not be construed to represent anything outside the scope of work.

This report is for the sole benefit of El Paso County and may not be relied upon by any other person or entity. The findings and conclusions of this work are limited in time and scope to the circumstances.

APPENDIX A

Asbestos Sample Summary Table

Public Health WIC – Asbestos Sample Summary Table

(Page 1 of 1)

Map #	Sample Number	Material Description	Sample Location	Condition	Approx. Quantity	Analytical Result
1	6436-FT01-01	Tan 12-inch floor tile with yellow mastic	Outside Restroom 130 at Drinking Fountain	G/NF	300 SF	None Detected
2	6436-FT01-02		Southwest Entry			None Detected
3	6436-MA01-01	Black Mastic Under Carpet	Room 129 – SW corner	G/NF	10,858 SF	8% Chrysotile
4	6436-MA01-02		Room 129 – Center of West wall			10% Chrysotile
5	6436-MA02-01	Black Mastic	Hallway 122 at entrance to 118	G/NF	2,072 SF	10% Chrysotile
6	6436-MA02-02		Room 124, south center			15% Chrysotile
7	6436-MA02-03		Kitchen 125, east wall			6% Chrysotile
8	6436-MA03-01	Black Mastic	Room 100 - Center	G/NF	1,077 SF	4% Chrysotile
9	6436-MA03-02		Room 100 – North end			15% Chrysotile
10	6436-CA01-01	Yellow Carpet Adhesive	Room 102 – SE corner	G/NF	664 SF	None Detected
11	6436-CA01-02		Room 102 – NE corner			None Detected
12	6436-CA01-03		Room 103 – at entrance to 104			None Detected
13	6436-FT02-01	12-inch White Floor Tile with Yellow Mastic	Hallway 107 – North End	G/NF	225 SF	None Detected
14	6436-FT02-02		Hallway 107 - Center			None Detected
15	6436-MA04-01	Yellow and Black Mastic	Hallway 134 – East End	G/NF	1,508 SF	8% Chrysotile
16	6436-MA04-02		Hallway 134 – West End			8% Chrysotile
	Sample Number Nomenclature XX -x-xx = date sampled xx- X -xx = facility identifier xx-x- XX = number of homogeneous samples		AFF = Above finished floor	G=good D=damaged SD=significant damage F= Friable NF=Non-friable SF=Square Feet		ND=none detected *= multiple layers

APPENDIX B

Asbestos Sample Location Drawing

APPENDIX C

Certifications



CHC Training
Nationwide Training & Certification Experts

www.chctraining.com
303.412.6360
855.60.CERTIFY

1775 West 55th Avenue
Denver, CO 80221,
United States of America
Colorado State Approval No. 22651

CERTIFICATE OF ACHIEVEMENT

This certificate is awarded to:

CHRIS THOMPSON

5923

In recognition of satisfactory completion of the EPA-approved asbestos refresher training course under section 206 of the Toxic Substance Control Act (TSCA) and Colorado Regulation No. 8 entitled
BUILDING INSPECTOR

COURSE DATE:

NOVEMBER 13, 2020

EXPIRATION DATE

NOVEMBER 13, 2021

COURSE HOURS:

4.0



Verify this Credential

Danaya N. Benedetto
CEO & Training Program Manager

Credential License ID:
25307059



Frank Hulce
Instructor

CHC Training Certificate No.
R20-1235-AI-CO Live-Remote-COVID-19



Visit our Website



Colorado Department
of Public Health
and Environment

ASBESTOS CERTIFICATION*

This certifies that

Chris J. Thompson

Certification No.: 5923

has met the requirements of 25-7-507, C.R.S. and Air Quality Control
Commission Regulation No. 8, Part B, and is hereby certified by the
state of Colorado in the following discipline:

Building Inspector*

Issued: April 13, 2021

Expires: April 13, 2022

** This certificate is valid only with the possession of a
current Division-approved training course certification
in the discipline specified above.*

Authorized APCD Representative

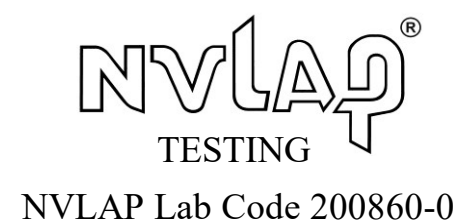
SEAL

APPENDIX D

Laboratory Reports / Chain of Custodies

Certificate of Analysis

Client Name: Apex Companies, LLC - Lakewood
Street Address: 1746 Cole Blvd. Ste 250
City, State ZIP: Lakewood, CO 80401
Attn: Chris Thompson
Client Project Name: 6033 / EPC Public Health



Date Collected: 7/29/2021
Date Received: 7/30/2021
Date Analyzed: 8/6/2021
Date Reported: 8/6/2021
Project ID: 21032348

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA 600/R-93/116: Method for Asbestos in Bulk Building Materials, EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method for Asbestos in Bulk Insulation Samples

Sample Identification		Physical Description of Sample/Layer	Homo- geneous (Y/N)	Layer Percentage	Asbestos Detected	Asbestos Percentage	Non-Asbestos Fiber Percentage	Non-Fibrous Material Percentage	Matrix Material Composition
Client	Lab Sample Number								
6436-FT01-01	21032348-1A	Off-White Floor Tile	N	94	ND			100	C
	21032348-1B	Tan Mastic	Y	6	ND		Tr CELL	100	B
6436-FT01-02	21032348-2A	Off-White Floor Tile	N	93	ND			100	C
	21032348-2B	Tan Mastic	Y	7	ND		Tr CELL,SYN	100	B
6436-MA01-01	21032348-3	Black Mastic with Light Tan Mastic	Y	100	CHRY	8		92	T,C
6436-MA01-02	21032348-4A	Black Mastic	Y	94	CHRY	10		90	T,C
	21032348-4B	Tan Mastic	Y	6	ND			100	B
6436-MA02-01	21032348-5A	Black Mastic	Y	97	CHRY	10		90	T,C
	21032348-5B	Tan Mastic	N	3	ND			100	B
6436-MA02-02	21032348-6A	Black Mastic	Y	98	CHRY	15		85	T



Michael Scales
Laboratory Analyst

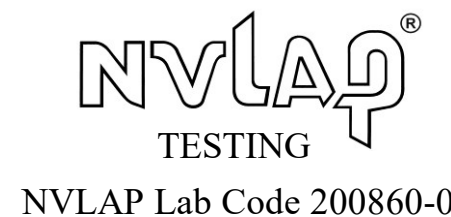


Shannon Whitmore
Asbestos Lab Supervisor

AC = Actinolite AH = Animal Hair B = Binder Q = Quartz
AM = Amosite CELL = Cellulose C = Calcite T = Tar
AN = Anthophyllite FG = Fibrous Glass D = Diatoms V = Vermiculite
CHRY = Chrysotile MW = Mineral Wool G = Gypsum
CR = Crocidolite OT = Other M = Mica
TRM = Tremolite SYN = Synthetic OR = Organic
Tr = Trace TL = Talc OP = Opaques
ND = None Detected W = Wollastonite P = Perlite

Certificate of Analysis


Client Name: Apex Companies, LLC - Lakewood
Street Address: 1746 Cole Blvd. Ste 250
City, State ZIP: Lakewood, CO 80401
Attn: Chris Thompson
Client Project Name: 6033 / EPC Public Health




Date Collected: 7/29/2021
Date Received: 7/30/2021
Date Analyzed: 8/6/2021
Date Reported: 8/6/2021
Project ID: 21032348

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA 600/R-93/116: Method for Asbestos in Bulk Building Materials, EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method for Asbestos in Bulk Insulation Samples

Sample Identification		Physical Description of Sample/Layer	Homo- geneous (Y/N)	Layer Percentage	Asbestos Detected	Asbestos Percentage	Non-Asbestos Fiber Percentage	Non-Fibrous Material Percentage	Matrix Material Composition
Client	Lab Sample Number								
6436-MA02-02	21032348-6B	Tan Mastic	N	2	ND			100	B
6436-MA02-03	21032348-7	Black Mastic with Light Tan Mastic	Y	100	CHRY	6		94	T,C
6436-MA03-01	21032348-8	Black Mastic with Green Mastic	Y	100	CHRY	4	Tr CELL,SYN	96	T,C
6436-MA03-02	21032348-9	Black Mastic	Y	100	CHRY	15		85	T
6436-CA0-01	21032348-10	Light Tan Mastic with Yellow/Multicolored Foam	Y	100	ND		Tr CELL,SYN	96	T,C
6436-CA0-02	21032348-11	Light Tan Mastic with Yellow/Multicolored Foam	Y	100	ND		Tr CELL,SYN	96	T,C
6436-CA0-03	21032348-12	Tan Mastic with White Woven Carpet Backing	N	100	ND		8 SYN,CELL	92	B,C



Michael Scales
Laboratory Analyst

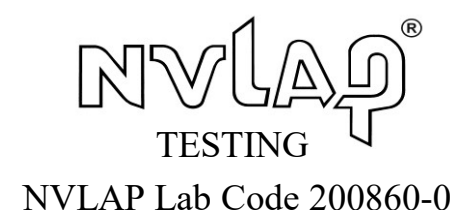


Shannon Whitmore
Asbestos Lab Supervisor

AC = Actinolite AH = Animal Hair B = Binder Q = Quartz
AM = Amosite CELL = Cellulose C = Calcite T = Tar
AN = Anthophyllite FG = Fibrous Glass D = Diatoms V = Vermiculite
CHRY = Chrysotile MW = Mineral Wool G = Gypsum
CR = Crocidolite OT = Other M = Mica
TRM = Tremolite SYN = Synthetic OR = Organic
Tr = Trace TL = Talc OP = Opaques
ND = None Detected W = Wollastonite P = Perlite

Certificate of Analysis

Client Name: Apex Companies, LLC - Lakewood
Street Address: 1746 Cole Blvd. Ste 250
City, State ZIP: Lakewood, CO 80401
Attn: Chris Thompson
Client Project Name: 6033 / EPC Public Health



Date Collected: 7/29/2021
Date Received: 7/30/2021
Date Analyzed: 8/6/2021
Date Reported: 8/6/2021
Project ID: 21032348

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA 600/R-93/116: Method for Asbestos in Bulk Building Materials, EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method for Asbestos in Bulk Insulation Samples

General Notes

- **ND** indicates no asbestos was detected; the method detection limit is 1 %.
- **Trace** or "< 1" indicates asbestos was identified in the sample, but the concentration is less than 1% and cannot be quantified without point counting.
- Samples identified as inhomogeneous (more than one layer) are separated into individual layers, and each layer is analyzed and reported separately.
- All regulated asbestos minerals (i.e. chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite) were sought in every layer of each sample, but only those asbestos minerals detected are listed. Amosite is the common name for the asbestiform variety of the minerals grunerite. Crocidolite is the common name used for the asbestiform variety of the mineral riebeckite.
- Tile, vinyl, foam, plastic, and fine powder samples may contain asbestos fibers of such small diameter (< 0.25 microns in diameter) that these fibers cannot be detected by PLM. For such samples, more sensitive analytical methods (e.g. TEM, SEM, and XRD) are recommended if greater certainty about asbestos content is required. Semi-quantitative bulk TEM floor tile analysis is accepted under NESHAP regulations.
- These results are submitted pursuant to Aerobiology Laboratory Associates, Inc.'s current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted.
- Unless notified in writing to return the samples covered by this report, Aerobiology Laboratory Associates, Inc. will store the samples for a minimum period of thirty (30) days before discarding. A shipping and handling charge will be assessed for the return of any samples.
- Aerobiology does not guarantee the results of tape lifts, microvacs, wipe, and/or debris samples. Accurate analysis cannot be performed due to particle size, media used, and/or amount of material given. Analysis of these materials should be performed by a TEM. *A result of ND does not indicate that the sample area does not contain asbestos. It means the analyst could not identify asbestos in the specific sample for the reasons listed above.*

Notes Required by NVLAP

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- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must include the entire document in order for the report to be valid.

Lab Use:
21032348



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Aerobiology Client		Apex Companies, LLC.		AZ, CA, CO, FL, GA, VA, NJ		AZ, CA, CO, VA		AZ, CA, CO, FL GA, NJ, VA	
Field Contact	Chris Thompson			Collected By/Date:	CJT 7/29/21		Relinquished By/Date:	CJT 7/29/21	
Reporting Address	1746 Cole Blvd, Suite 250			Relinquished By/Date:			Received By/Date:	KE 7/30/21 9:45AM	
Billing Address	Lakewood, CO 80401			Sampler Type	Andersen <input type="checkbox"/>	SAS <input type="checkbox"/>	Sample Aire <input type="checkbox"/>	Aero Trap <input type="checkbox"/>	Other <input type="checkbox"/>
Phone/Fax	719-330-2970			PO#/Job#:	6033				
Reporting Email(s)	Chris.Thompson@apexcos.com			Project Name:	EPC Public Health				
Routine <input checked="" type="checkbox"/>	24 Hour <input type="checkbox"/>	Same Day <input type="checkbox"/>	4 Hour <input type="checkbox"/>	2 Hour <input type="checkbox"/>	Notes:				
SAMPLING LOCATION ZIP CODE				80911		CC Info:			

Sample No.	Test Code	Sample Location	Total Volume/Area
1 6436-FT01-01	3002	Flour tile/mastic labeled as 6436-FT01	
2 ↓ ↓ 02		↓	
3 6436-MA01-01		mastic	
4 ↓ ↓ 02			
5 6436-MA02-01			
6 ↓ ↓ 02			
7 ↓ ↓ 03			
8 6436-MA03-01			
9 ↓ ↓ 02			
10 6436-CA01-01		Carpet adhesive	
11 ↓ ↓ 02			
12 ↓ ↓ 03			
13			
14			
15			

LAB USE ONLY

A: *ms* 8/6/21 (+)

V:

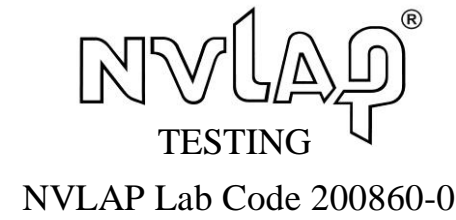
Q: *AG* 8/6/21

1015	Culture - WATER Legionella
1017	Culture - SWAB Legionella
1010	WATER - Potable - E. coli/total coliforms
1012	SWAB - E. coli/total coliforms
1028	SWAB - Sewage Screen (E. coli/Enterofecal coliforms)
2056	WATER - Heterotrophic Plate Count
3001	ASBESTOS - Point count
3002	ASBESTOS - PLM Analysis
3003	ASBESTOS - Particle characterization
3004	ASBESTOS - PCM Analysis

ix, AZ Cherry Hill, NJ Los Angeles, CA Ft. Lauderdale, FL
11-3700 (856) 486-1177 (714) 895-8401 (954) 451-3725

Certificate of Analysis


Client Name: Apex Companies, LLC - Lakewood
Street Address: 1746 Cole Blvd. Ste 250
City, State ZIP: Lakewood, CO 80401
Attn: Chris Thompson
Client Project Name: 6033 / EPC Dpt of Health




Date Collected: 8/17/2021
Date Received: 8/19/2021
Date Analyzed: 8/19/2021
Date Reported: 8/19/2021
Project ID: 21035894

Test Requested: **3002, Asbestos in Bulk Samples**
Method: EPA 600/R-93/116: Method for Asbestos in Bulk Building Materials, EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method for Asbestos in Bulk Insulation Samples

Sample Identification		Physical Description of Sample/Layer	Homo- geneous (Y/N)	Layer Percentage	Asbestos Detected	Asbestos Percentage	Non-Asbestos Fiber Percentage	Non-Fibrous Material Percentage	Matrix Material Composition
Client	Lab Sample Number								
6436-MA04-01	21035894-1A	Pink Granular Cementitious Material	N	1	ND			100	Q
	21035894-1B	Tan Mastic with Light Green Paint	N	85	ND			100	B
	21035894-1C	Black Mastic	Y	14	CHRY	8		92	T
6436-MA04-02	21035894-2A	Blue Resinous Material	Y	8	ND			100	B
	21035894-2B	Gray Leveling Compound	Y	90	ND		2 CELL	98	C
	21035894-2C	Black Mastic	Y	2	CHRY	8		92	T
6436-FT02-01	21035894-3A	Blue Resinous Material	Y	1	ND			100	B
	21035894-3B	Gray Leveling Compound	Y	3	ND		2 CELL	98	C
	21035894-3C	White Floor Tile	Y	95	ND			100	B,C
	21035894-3D	Yellow Mastic	Y	1	ND			100	B

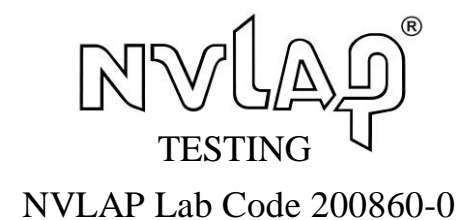

Andrea Berrios
Laboratory Analyst


Shannon Whitmore
Asbestos Lab Supervisor

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Client	Lab Sample Number								
6436-FT02-02	21035894-4A	Blue Resinous Material	Y	1	ND			100	B
	21035894-4B	Gray Leveling Compound	Y	2	ND		2 CELL	98	C
	21035894-4C	White Floor Tile	Y	97	ND			100	B,C
	21035894-4D	Yellow Mastic	Y	Tr	ND			100	B



Andrea Berrios
Laboratory Analyst

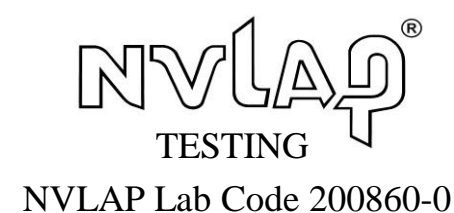


Shannon Whitmore
Asbestos Lab Supervisor

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City, State ZIP: Lakewood, CO 80401
Attn: Chris Thompson
Client Project Name: 6033 / EPC Dpt of Health



Date Collected: 8/17/2021
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Date Analyzed: 8/19/2021
Date Reported: 8/19/2021
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21035894



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Aerobiology Client		Apex Companies, LLC.		AZ, CA, CO, FL, GA, VA, NJ		AZ, CA, CO, VA		AZ, CA, CO, FL, GA, NJ, VA	
Field Contact	Chris Thompson			Collected By/Date:	CTT 8/17/21		Relinquished By/Date:	CTT 8/18/21	
Reporting Address	1746 Cole Blvd, Suite 250			Relinquished By/Date:			Received By/Date:	MM 8/19/21 10 am	
Billing Address	Lakewood, CO 80401			Sampler Type	Andersen <input type="checkbox"/>	SAS <input type="checkbox"/>	Sample Air <input type="checkbox"/>	Aero Trap <input type="checkbox"/>	Other <input type="checkbox"/>
Phone/Fax	719-330-2970			PO#/Job#:	6033				
Reporting Email(s)	Chris.Thompson@apexcos.com			Project Name:	EPC Dpt of Health				
Routine <input type="checkbox"/>	24 Hour <input type="checkbox"/>	Same Day <input checked="" type="checkbox"/>	4 Hour <input type="checkbox"/>	2 Hour <input type="checkbox"/>	Notes:				
SAMPLING LOCATION ZIP CODE				80911		CC Info:			

Sample No.	Test Code	Sample Location	Total Volume/Area
1 6436-MA04-01	3002	mastic	
2 ↓ ↓ 02	↓	↓	
3 6436-FT02-01	↓	Floor tile and mastic	
4 ↓ ↓ 02	↓	↓	
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

LAB USE ONLY

A: AB 08/19/21

V: A Chris@ 3:24 pm AB 08/19/21

Q: A 8/19/21

1015	Culture - WATER Legionella
1017	Culture - SWAB Legionella
1010	WATER - Potable - E. coli/total coliforms
1012	SWAB - E. coli/total coliforms
1028	SWAB - Sewage Screen (E. coli/Enterofecal coliforms)
2056	WATER - Heterotrophic Plate Count
3001	ASBESTOS - Point count
3002	ASBESTOS - PLM Analysis
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3004	ASBESTOS - PCM Analysis

AZ Cherry Hill, NJ Los Angeles, CA Ft. Lauderdale, FL
3700 (856) 486-1177 (714) 895-8401 (954) 451-3725

APPENDIX E

Photographs



Sample: 6436-MA04
PLM Result: 8% Chrysotile



Sample: 6436-MA04
PLM Result: 8% Chrysotile



Sample: 6436-FT01
PLM Result: None Detected



Sample: 6436-MA01
PLM Result: 8-10% Chrysotile