

**DATE:** 3/8/2023

**CM ADDENDUM NO:** Two (2)

**PROJECT:** Cherokee Nation  
Runner Addition - Stilwell

**CONSTRUCTION  
MANAGER:** Maska Builders, LLC  
555 N Elm St  
Jenks, Oklahoma 74037  
(918) 299-9797

This addendum is and shall be considered a part of the contract documents and modifies the original bidding documents dated February 23, 2023. Acknowledge receipt of this addendum in the space provided on the Bid Form contained in each Bid Package. Failure to do so may subject bidder to disqualification. Please refer to architect addendums for any changes to plans or specifications.

**GENERAL INFORMATION**

- All bidders take into consideration the following Asbestos Survey Dated 3-7-2023. All removal, abatement, and disposal is the responsibility of the contractor.

**BIDDING REQUIREMENTS/INSTRUCTIONS TO BIDDERS**

- None

**SPECIFICATIONS**

- None

**DRAWINGS**

- None

**SCHEDULE**

- None

Cherokee Nation  
Runner Addition – Stilwell, OK



C.M. ADDENDUM NUMBER TWO (2)



**A & M Engineering and  
Environmental Services, Inc.**  
Consulting - Design - Construction - Remediation

# Limited Asbestos-Containing Materials Inspection and Lead-Based Paint Inspection Report

## Residential Property

1500 West Young Avenue  
Stillwell, Adair County, Oklahoma 74960

A & M Project Number 1668-0046

March 7, 2023

Prepared For:



**Cherokee Nation Businesses**  
Mr. Joe Washum  
Director of Safety and Environment  
777 West Cherokee Street  
Catoosa, Oklahoma 74015  
Email: [joseph.washum@cn-bus.com](mailto:joseph.washum@cn-bus.com)  
Phone: (918) 384-7937



**A & M Engineering and  
Environmental Services, Inc.**  
Consulting - Design - Construction - Remediation

March 7, 2023

Mr. Joe Washum  
Director of Safety and Environment  
Cherokee Nation Businesses  
777 West Cherokee Street  
Catoosa, Oklahoma 74015

A & M Project Number 1668-0046

Email: [joseph.washum@cn-bus.com](mailto:joseph.washum@cn-bus.com)  
Phone: (918) 384-7937

**REF: Limited Asbestos Containing Building Materials and Lead Based Paint Inspection for a Residential Property located at 1500 West Young Avenue, Stillwell, Adair County, Oklahoma 74960.**

Dear Mr. Washum:

A & M Engineering and Environmental Services, Inc. (A & M) has completed the Limited Asbestos Containing Building Materials and Lead Based Paint Inspection for the above referenced facility. Please find enclosed our report providing a summary of field activities, laboratory analyses, findings, and recommendations.

Thank you for choosing A & M. If you have any questions, please feel free to contact us at (918) 665-6575 or via email.

Respectfully,  
**A & M Engineering and Environmental Services, Inc.**

A handwritten signature in black ink that reads "Jeff Jenkins".

Jeff Jenkins, CIH, CSP  
Senior Industrial Hygienist  
[jjenkins@aandmengineering.com](mailto:jjenkins@aandmengineering.com)

A handwritten signature in blue ink that reads "Justin Scott".

Justin Scott  
Environmental Specialist  
[jscott@aandmengineering.com](mailto:jscott@aandmengineering.com)

Enclosure (1)

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## 1.0 EXECUTIVE SUMMARY

A & M Engineering and Environmental Services, Inc. (A & M) performed a Limited Asbestos-Containing Materials Inspection and Lead-based Paint Inspection (Inspection) for a Residential Property **located at 1500 West Young Avenue in Stilwell, Adair County, Oklahoma 74950 on February 8 and 28, 2023**. An Executive Summary of our Inspection is provided below.

Our findings and recommendations are provided below:

**The following building materials onsite were determined to contain asbestos:**

- Paint texture - walls (2% chrysotile asbestos) located throughout the residence.
- Paint texture - ceiling (2% chrysotile asbestos) located throughout the residence.
- Roofing materials (presumed asbestos) located atop residence.

**The following building materials onsite were determined to contain Lead-based Paint:**

- No LBP identified.

**Based upon our Inspection findings A & M recommends the following:**

- The paint texture on the walls and the ceiling throughout the residence are classified as friable asbestos containing materials by the NESHAP for Asbestos. Based on the potential for disturbance by tenants, maintenance workers, and others, A & M considers the risk associated with these materials to be high and recommends that these materials be abated by an Oklahoma-licensed asbestos abatement contractor.
- Prior to any removal/abatement of Friable ACM, a project design must be prepared by a licensed project designer and submitted to the Oklahoma Department of Labor (ODOL) for approval. A NESHAP notification must be filed with the Oklahoma Department of Environmental Quality (ODEQ) if more than 260 linear feet (LF) or 160 square feet (SF) of friable materials are to be disturbed during renovation.

No roofing materials were sampled as part of this Inspection. Roofing materials are presumed to contain asbestos.

## 2.0 SCOPE OF WORK, PURPOSE, AND LIMITATIONS

This project has been performed in accordance with the agreed scope of work, purpose, and limitations outlined in our proposal dated December 8, 2022, and signed by the client on February 1, 2023. These conditions are summarized below.

### Scope of Work

**A & M was contracted on February 1, 2023, by Mr. Joe Washum (Director of Safety and Environment) with Cherokee Nation Businesses (CNB), henceforth referred to as the “Client”. A & M was contracted to perform a Limited Asbestos-Containing Materials Inspection and Lead-based Paint Inspection, henceforth referred to as “Inspection”. This Inspection has been performed for the CNB facility located at 1500 West Young Avenue, Stillwell, Adair County, Oklahoma 74950 on February 8 and 28, 2023. henceforth referred to as the “Site”. This Inspection Report, henceforth referred to as the “Report”, addresses general relevance of the identified conditions observed onsite during field activities.**

### Purpose

**According to CNB representatives, the buildings are scheduled for demolition in the coming months. This Inspection has been performed to evaluate the potential presence of Asbestos-Containing Materials (ACMs) and Lead-based Paint (LBP) onsite that may require actions prior to demolition.**

### Limitations

This Inspection was limited to the buildings, areas, and samples described within this Report. Our findings and recommendations are based upon Site conditions observed on the date of the Inspection and regulations in effect (if any) at the time. We have made no representation of historical or future conditions. Unless the building structure is scheduled for demolition, and is clearly noted within this Report, destructive sampling to assess materials located inside of walls, inaccessible pipe chases, or other hidden areas was not part of this Inspection.

This Inspection was performed in accordance with currently acceptable standard practices and the requirements of State and Federal regulations. This Inspection was performed in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Asbestos (40 CFR Part 61, Subpart M) and the United States Department of Housing and Urban Development (HUD).. A & M does not make any warranty regarding the materials or conditions not evaluated or sampled as identified in this report. The materials and/or surfaces that did not contain asbestos in concentrations above 1% or Lead above 1.0 milligram per square centimeter (mg/cm<sup>2</sup>) may still pose a hazard if disturbed and be subject to Occupational Safety and Health Administration (OSHA) regulations regarding employee (worker) safety.

### 3.0 DEFINITIONS

The following definitions were taken from the Model Curriculum for Training Building Inspector Refresher Course for Accreditation under Toxic Substance Control Act (TSCA) Section 206, United States Environmental Protection Agency (USEPA) Cooperative Agreement NO. CX 820760-01-0, 2013 and the USEPA Model Lead-Based Paint Inspector Curriculum (May 2000), Cooperative Agreement NO. CX 823710 and apply to this Report.

- **AHERA** - The Asbestos Hazard Emergency Act, United States Environmental Protection Agency.
- **Asbestos Containing Building Materials (ACBM)** - Surfacing ACM, thermal system insulation, or miscellaneous ACM that is found in or on interior structural members or other parts of a school building (AHERA definition).
- **Asbestos Containing Materials (ACM)** - Any material or product which contains more than one (1) percent (%) asbestos. (AHERA and OSHA definition).
- **ASHARA** - Asbestos School Hazard Abatement Reauthorization Act, US Environmental Protection Agency regulation enacted November 28, 1992, which extended accreditation requirements for inspectors, contractors/supervisors, project designers, and workers to public and commercial buildings.
- **Building Component** - Any element of a building that may be painted or have dust on its surface, e.g., walls, stair treads, floors, railings, doors, and windowsills.
- **Category I nonfriable ACM** - Asbestos containing packing's, gaskets, resilient floor covering, and asphalt roofing products containing more than one (1) % asbestos.
- **Category II nonfriable ACM** - Any material, other than category 1 nonfriable ACM containing more than one (1) % asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- **Certified** - The designation for contractors who have completed training and other requirements to allow them to safely undertake risk assessments, inspections, or abatement work.
- **Certified firm** - A company, partnership, sole proprietorship, association, or other business entity that performs Lead-Based paint activities to which a state agency or USEPA has issued a certificate of approval.
- **Certified inspector** - An individual who has been trained by an accredited training program and certified by a state agency or USEPA to conduct inspections. A certified inspector also samples for the presence of lead in dust and soil for the purposes of abatement clearance testing.
- **Certified abatement worker** - An individual who has been trained by an accredited training program and certified by a state agency or USEPA to conduct abatements.
- **Certified risk assessor** - An individual who has been trained by an accredited training program and certified by a state agency or USEPA to conduct risk assessments. A certified risk assessor also samples for the presence of lead in dust and soil for the purposes of abatement clearance testing.

- **Chewable surface** - An interior or exterior surface painted with Lead-Based paint that a young child can mouth or chew. A chewable surface is the same as an “accessible surface” as defined by 42 USC 4851b(2). Hard metal substrates and other materials that can not be dented by the bite of a young child are not considered chewable.
- **Child-occupied facility** - A building or portion of a building, constructed prior to 1978, visited regularly by the same child six years of age or younger on at least two (2) different days in any given week (Sunday to Saturday), provided that each day’s visit lasts at least three (3) hours, and the combined weekly visit lasts at least six (6) hours, and the combined annual visits last at least sixty (60) hours. Child-occupied facilities may include, but are not limited to, day-care centers, preschools, and kindergarten classrooms.
- **Damaged** - Material showing visual damage over less than ten (10) % of the surface area or less than twenty-five (25) % if localized (AHERA definition).
- **Deteriorated paint** - Paint that is cracking, flaking, chipping, peeling, or otherwise separating from the substrate of a building component.
- **Direct-reading XRF** - An analyzer that provides the operator with a display of lead concentrations calculated from the lead K x-ray intensity without a graphic of the spectrum, usually in mg/cm<sup>2</sup>.
- **Friable** - Any material that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
- **Homogenous sampling area** - An area of ACBM or suspect ACBM which appears similar throughout in terms of color, texture, and date of material application.
- **Good condition** - Material with no visible damage or deterioration or showing only extraordinarily slight damage (i.e., Less than 1% or deterioration (AHERA definition)).
- **Inspection** - A surface by surface investigation to determine the presence of Lead-Based paint and the provision of a report explaining the results of the investigation.
- **Intact paint** - Lead paint is considered intact if the painted surface is smooth and free of blisters, holes and cracks, and the paint is firmly attached to the surface and hard to dislodge.
- **Interim controls** - A set of measures designed to temporarily reduce human exposure or likely exposure to Lead-Based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of Lead-Based paint hazards, or potential hazards, and the establishment and operation of management and resident education programs.
- **Lead-Based Paint (LBP)** - Paint or other surface coatings that contain lead equal to or more than 1.0 milligrams per square centimeter or more than 0.5% by weight.
- **Miscellaneous materials** - Friable and non-friable materials that do not fit in the classifications as surfacing or thermal insulation, such as resilient floor covering, baseboards, mastics, adhesives, roofing materials, caulking, glazing, and siding.
- **National Emissions Standards for Hazardous Air Pollutants (NESHAP)** - National Emission Standards for Hazardous Air Pollutants - EPA Regulation 40 CFR subpart, part 61.



- **Occupational Safety and Health Administration (OSHA)** - Occupational Safety and Health Administration; serves as the enforcement agency for safety and health in the workplace environment.
- **Polarized Light Microscopy (PLM)** - An optical microscopy technique for analyzing bulk samples for asbestos in which the sample is illuminated with polarized light (light which vibrates in only one plane) to distinguish between different types of asbestos fibers by their shape and unique optical properties.
- **Presumed Asbestos Containing Material (PACM)** - Asbestos containing surfacing materials or thermal insulation found in buildings constructed no later than 1980 (OSHA definition).
- **Significantly damaged** - Material showing visual damage over more than ten (10) % of the surface area or more than twenty-five (25) % if localized (AHERA definition).
- **Surfacing materials** - Sprayed or trowel applied surfaces such as plaster ceilings and walls, fireproofing, textured paints, textured plasters, and spray-applied acoustical surfaces.
- **Suspect Asbestos Containing Material (SACM)** - Any miscellaneous materials prior to 1980 or materials installed after 1980 that are suspect but have not been tested for Asbestos.
- **Target housing** - Any building constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any one (1) or more children age six (6) years or under resides or is expected to reside in such housing for the elderly persons with disabilities) or any zero (0) bedroom dwelling.
- **Testing combination** - A unique surface to be tested that is characterized by the room equivalent, component, and substrate.
- **Thermal system insulation** - Insulation used to inhibit heat gain or loss on pipes, boilers, tanks, ducts, and other building components.
- **X-rays** - Electromagnetic radiation of shorter wavelength than ultraviolet radiation and longer wavelength than gamma radiation. Atoms of all the elements emit a characteristic x-ray spectrum when they are bombarded by electrons.
- **X-ray fluorescence** - The emission of x-rays from excited atoms produced by the impact of high energy electrons, other particles, or primary beam of other x-rays.
- **X-ray Fluorescence (XRF) analyzer** - An instrument which estimates lead concentration in milligrams per square centimeter (mg/cm<sup>2</sup>) using the principle of X-ray fluorescence.
- **Zero-bedroom dwelling** - Any residential dwelling in which the living areas are not separated from the sleeping area. The term includes efficiencies, studio apartments, dormitory or single room occupancy housing, military barracks, and rentals of individual rooms in residential dwellings.

## 4.0 GENERAL SITE CONDITIONS

The Site is currently used as residential property with a single-family house and three (3) associated outbuildings.

Appendix A (Figures) provides Figure 1 (Site Vicinity Map) and Figure 2 (Site Layout Map) for reference. Appendix B (Photographic Record) provides photos of general Site conditions.

## 4.1 BUILDING DESCRIPTIONS

The residential house measures approximately 2,042 square feet (SF) was constructed in 1940 according to county assessor records. Additional buildings includes a pole barn covered by tin and two (2) well houses constructed of cinder block and/or brick.

**The pole barn and well houses were visually assessed and determined to contain no SACM or painted surfaces.**

### 4.1.1 Interior Construction

Interior finishes in the residential house include drywall and plaster walls and ceilings. Interior flooring consists of wood floors that have been either painted (2<sup>nd</sup> floor) or covered in vinyl sheet flooring (1<sup>st</sup> floor).

### 4.1.1 Exterior Construction

The residential house is partially covered with vinyl siding over painted wood siding. Windows were vinyl replacement or aluminum framed windows. The roof is a pitched, shingled roof.

## 5.0 ASBESTOS INSPECTION AND SAMPLING ACTIVITIES

The entire Site including all structures and ancillary items were visually inspected for SACMs. Once identified, all SACMs to be bulk sampled were grouped into Homogenous Areas (HAs) and Functional Spaces (FSs). Physical bulk samples of Suspect Asbestos Containing Materials (SACMs) were collected on as close to a purely random basis as possible with consideration being given to discreet sample locations. Wet techniques, including the application of water, soapy water, and/or shaving cream to the material to be sampled, were used to reduce the generation of dust and debris. Sample locations were not repaired unless the sample was a) from a roof or b) was friable and posed an exposure risk from fiber release into an occupied area.

A & M followed the Asbestos Hazard Emergency Response Act (AHERA) regulations in determining the minimum number of samples to be collected. AHERA requires a different number of samples depending upon the classification of the material including the following:

- For surfacing materials, the ideal number is nine (9) samples collected from nine (9) quadrants of the surface. AHERA provides an acceptable sampling number based upon square footage, as follows:
  - Less than 1,000 square feet, collect a minimum of three (3) samples on a random basis.
  - 1,000 to 5,000 square feet, collect a minimum of five (5) samples, on a random basis.
  - Greater than 5,000 square feet collect a minimum of seven (7) samples on a random basis.
- For thermal insulation, AHERA specifies a minimum of three (3) samples and long runs additional samples should be collected.
- For miscellaneous materials, AHERA specifies more than one (1) sample; however, many states require two (2) or more. A & M collected a minimum of three (3) samples.

A & M used a unique sampling number to distinguish between the different samples collected. The numbering system was in the format of XXXX-A-ZZ where the following applies:

- XXXX represents date of sample collection and is a numeric number.
- A represents the homogenous area and is an alphanumeric (A, B, C, ...) identifier.
- ZZ is a numeric sequential number (1, 2, 3, 4, ...) representing the actual sample number.

[Appendix A \(Figures\)](#) provides [Figure 2 \(Site Layout Map\)](#) which includes sample locations.

## 5.1 MATERIALS PRESUMED

Occasionally, SACMs are identified that are presumed to be ACM but which are not actually sampled due to location, the risk of release of fibers into occupied areas, or other considerations. Additionally, some SACMs are visually identified as being non-ACM based upon characteristics (fiberglass, black foam insulation, etc.) and/or dates of construction/installation.

Table 1 (Materials Presumed Summary) below identifies these materials that were identified as suspect but were not sampled.

**Table 1**  
**Materials Presumed Summary**

Materials	Locations	Justifications	Presumed ACM or Non-ACM
Roofing	Rooftops	No access	ACM

## 5.2 LABORATORY ANALYSES RESULTS

A total of fourteen (14) bulk samples were collected from five (5) HAs. All bulk samples were collected by Jeff Jenkins (Sr. Industrial Hygienist) of A & M. Due to multiple layers in some samples, a total of twenty-four (24) analyses were performed. The samples were shipped to Cates Laboratory in Dallas, Texas for analysis by Polarized Light Microscopy (PLM) using USEPA Method 600/M4-82-020. Cates Laboratory is a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

The positive samples for ACM were confirmed using the 40-Point Count method.

Table 2 (Laboratory Analyses Results Summary) below summarizes the laboratory analyses results.

**Table 2**  
**Laboratory Analyses Results Summary**

Materials	Friability	Locations	Samples	Asbestos %	Quantities
Brown Sheet Flooring	NF	1 <sup>st</sup> Floor	3	ND	NA
Cream Sheet Flooring	NF	1 <sup>st</sup> Floor	3	ND	NA
<b>Drywall – Walls (Paint Texture)</b>	<b>F</b>	<b>Residence</b>	<b>3</b>	<b>2</b>	<b>3,500 SF</b>
Drywall – Walls (Paper)				ND	
Drywall – Walls (Wallboard Material)				ND	
<b>Drywall – Ceilings – (Paint Texture)</b>	<b>F</b>	<b>Residence</b>	<b>3</b>	<b>2</b>	<b>1,900 SF</b>
Drywall – Ceilings – (Paper)				ND	
Drywall – Ceilings – (Wallboard Materials)				ND	
Insulation	F	Attic	2	ND	NA

Notes: F = Friable; NF = Non-Friable; SF = Square Feet, NA = Not Applicable; ACMs identified in bold/blue

[Appendix C \(Laboratory Analyses Reports\)](#) provides a copy of the Laboratory Analyses Reports.

### 5.3 LICENSES AND CERTIFICATIONS

The Oklahoma Department of Labor (ODOL) requires that anyone conducting an asbestos Inspection must have a current asbestos license issued by ODOL. This Inspection was performed by environmental professionals with current asbestos licenses issued by ODOL. The laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

A copy of the asbestos licenses for the inspector(s) and laboratory accreditations and certifications are provided in Appendix G (Licenses and/or Certifications).

## 6.0 LEAD-BASED PAINT INSPECTION ACTIVITIES

The Site was inspected for LBP onsite. Inspection activities are described in detail in the following sections.

### 6.1 LEAD-BASED PAINT

The Inspection was conducted using a SCI-APS X550 X-ray Fluorescence (XRF) (serial # 00524) which uses a Rhodium (Rh) anode in the x-ray tube. The Performance Characteristic Sheet (PCS) identifies this model as having no substrate correction or Inconclusive Range. The PCS states the XRF can be used in a timed (10 seconds) mode or the quick mode (2 – 6 seconds). The threshold (concentration identified as positive) is identified as 0.9 mg/cm<sup>2</sup>. The PCS shows for the SRM 2573 (1.02 mg/cm<sup>2</sup>) should read 0.8 to 1.2 mg/cm<sup>2</sup> during the calibration checks conducted prior to, immediately following, and every four (4) hours during the Inspection.

[Appendix D \(Performance Characteristic Sheets\) provides a copy of the Performance Characteristic Sheet.](#)

A Certificate of Lead Findings (Certificate) was prepared that will serve as documentation that an Inspection has been completed and provide a quick summary of the lead findings. The Certificate should be used as a supplement to the Inspection findings, not as a replacement for this Inspection Report. It is the owner's or management's legal responsibility to disclose the results of the Inspection to prospective tenants, buyers, or occupants before they become obligated under contract. The Certificate may be used in meeting this obligation. Since no LBP was identified, the federal disclosure regulations do not apply unless the Site is being offered for sale.

[Appendix E \(Certificate of Lead Findings\) provides a Certificate of Lead Findings.](#)

The XRF was used to determine the lead concentration of painted surfaces in the interior, exterior, and outside play areas. The Consumer Product Safety Commission (CPSC) From the Office of Compliance, Part 1303: Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint issued a ban on paint and similar surface coating materials. The CPSC also identified that materials such as ceramic glaze which become bonded to the surface of a product are not paints or similar surface coating materials. Therefore, ceramic tile is not considered a painted surface.

The sample data was recorded on a field data sheet that identifies the Room, Side, Component, Substrate, Color, and Lead Concentration. Approximately one hundred (100) different surfaces were analyzed using the XRF during this Inspection.

**No LBP was identified onsite.**

[Appendix A \(Figures\) provides Figure 2 \(Site Layout Map\) which includes LBP locations. Appendix F \(XRF Data\) provides a copy of the Field Data Sheets and XRF printouts.](#)

### 6.2 LICENSES AND CERTIFICATIONS

The Oklahoma Department of Environmental Quality (ODEQ) requires that anyone conducting a LBP Inspection on Target Housing or Child Occupied Facility must have a current LBP license issued by ODEQ. This Inspection was performed by environmental professionals with current LBP licenses issued by ODEQ.

[A copy of the asbestos licenses for the inspector\(s\) and laboratory accreditations and certifications are provided in Appendix F \(Licenses and/or Certifications\).](#)

## 7.0 FINDINGS AND RECOMMENDATIONS

Our findings and recommendations are provided below:

### **The following building materials onsite were determined to contain asbestos:**

- Paint texture - walls (2% chrysotile asbestos) located throughout the residence.
- Paint texture - ceiling (2% chrysotile asbestos) located throughout the residence.
- Roofing materials (presumed asbestos) located atop residence.

### **The following building materials onsite were determined to contain Lead-based Paint:**

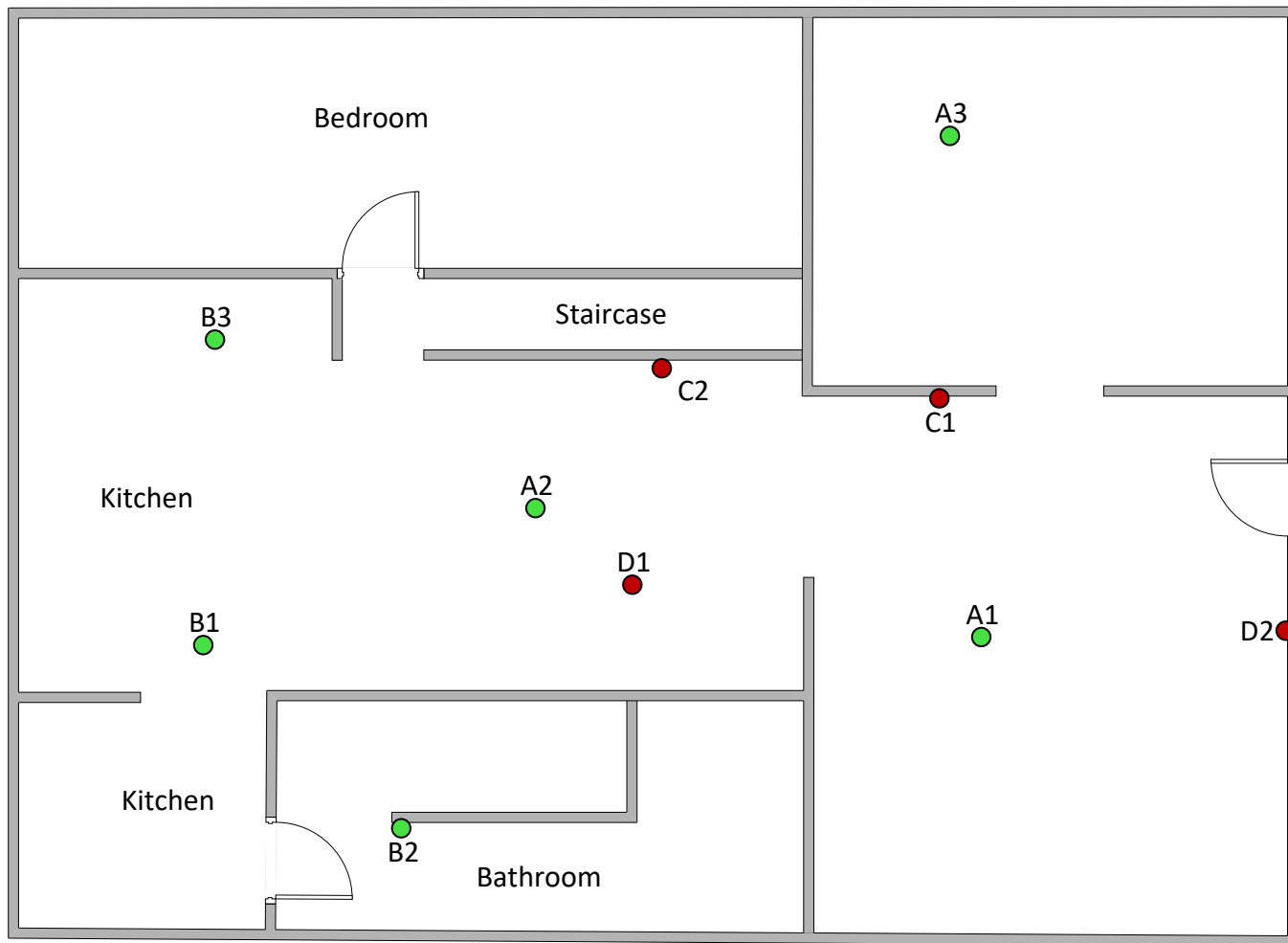
- No LBP Identified.

### **Based upon our Inspection findings A & M recommends the following:**

- The paint texture on the walls and the ceiling throughout the residence are classified as friable asbestos containing materials by the NESHAP for Asbestos. Based on the potential for disturbance by tenants, maintenance workers, and others, A & M considers the risk associated with these materials to be high and recommends that these materials be abated by an Oklahoma-licensed asbestos abatement contractor.
- Prior to any removal/abatement of Friable ACM, a project design must be prepared by a licensed project designer and submitted to the Oklahoma Department of Labor (ODOL) for approval. A NESHAP notification must be filed with the Oklahoma Department of Environmental Quality (ODEQ) if more than 260 linear feet (LF) or 160 square feet (SF) of friable materials are to be disturbed during renovation.

**Appendix A  
(Figures)**





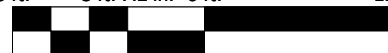
**A & M Engineering and Environmental Services, Inc.**  
Consulting - Design - Construction - Remediation

**Legend**

- Negative ACM Sample Location
- Positive ACM Sample Location

Approximate scale:

0 ft.    3 ft. 7.2 in.    6 ft.    12 ft.



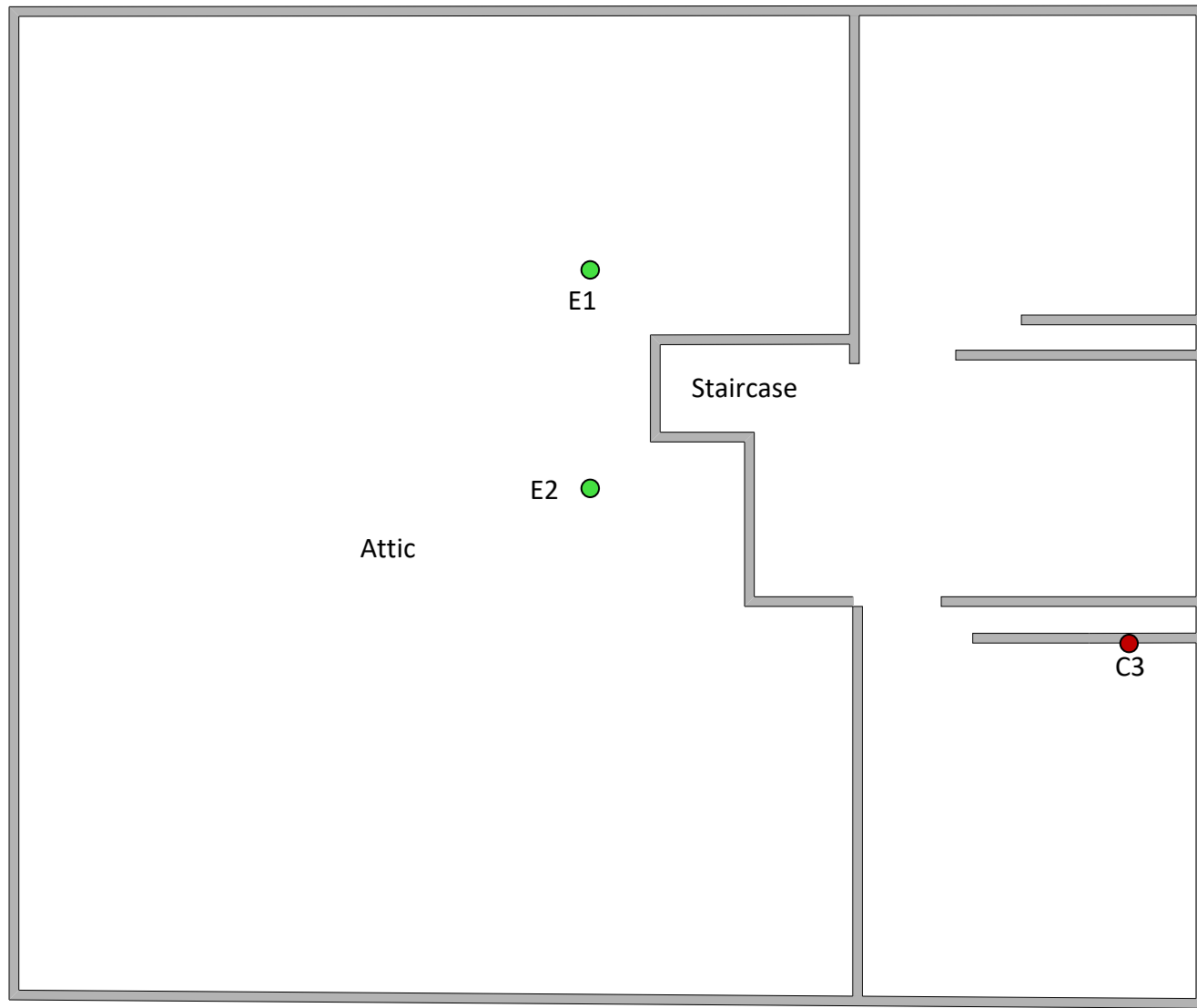
**Site Layout Map**

**Residential Property**

1500 West Young Avenue  
Stillwell, Adair County, Oklahoma 74960

February 27, 2023

**Figure 1**

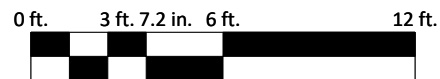


**A & M Engineering and Environmental Services, Inc.**  
Consulting - Design - Construction - Remediation

**Legend**

- Negative Sample Location
- Positive Sample Location

Approximate scale:



**Site Layout Map**

**Residential Property**

1500 West Young Avenue  
Stillwell, Adair County, Oklahoma 74960

February 27, 2023

**Figure 1**

**Appendix B  
(Photographic Record)**

PHOTO 1



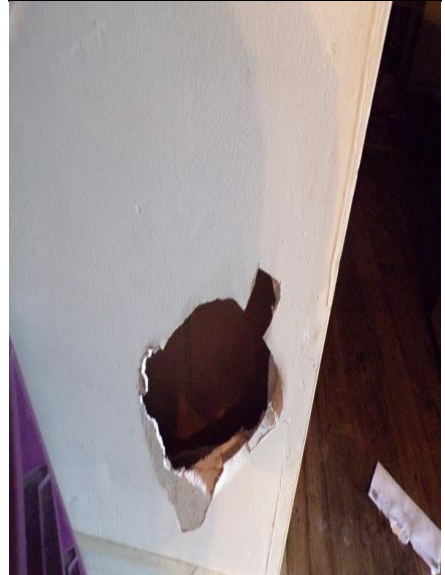
Example of the Brown Sheet Flooring over a wood floor.

PHOTO 2



Example of the Cream Sheet Flooring over a wood floor.

PHOTO 3



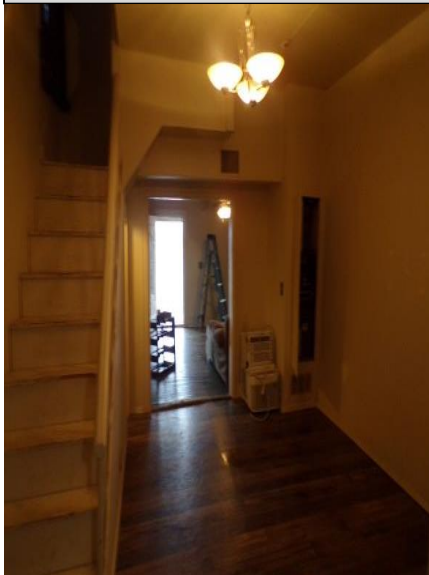
Example of the drywall - walls and positive ACM paint texture.

PHOTO 4



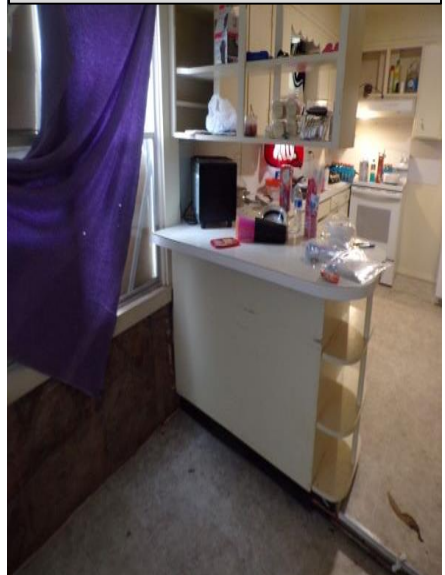
Example of the attic insulation.

PHOTO 5



Example of the drywall - walls and positive ACM paint texture. View of formal dining and staircase.

PHOTO 6



View of dining room and kitchen.



**A & M Engineering and Environmental Services, Inc.**  
Consulting - Design - Construction - Remediation

**Photographic Record**

**Residential Property**

1500 West Young Avenue  
Stilwell, Adair County, Oklahoma 74950

**Appendix C**  
**(Laboratory Analyses Reports)**

## PLM REPORT SUMMARY



**Cates Laboratories**  
 1339 Motor Circle  
 Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0  
 TDSHS License No. 30-0287

Client: A&M Engineering & Environmental Services	Lab Job No.: PLM-32532
Project (Line 1): Cherokee Nation Business	Set No.: 46824
Project (Line 2): 1500 West Young Avenue, Stillwell, OK	Report Date: 2/23/2023
Project No: 1668-0046	Sample Date: 2/8/2023
Identification: Asbestos, Bulk Sample Analysis	Version: PC1
Test Method: Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116	Page 1 of 3

On 2/10/2023, twelve (12) bulk samples were submitted by Mr. Jeff Jenkins of A&M Engineering & Environmental Services for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL1120903	0208-A-1	Sheet Flooring, Brown	None Detected
CL1120904	0208-A-2	Sheet Flooring, Brown	None Detected
CL1120905	0208-A-3	Sheet Flooring, Brown	None Detected
CL1120906	0208-B-1	Sheet Flooring, Cream	None Detected
CL1120907	0208-B-2	Sheet Flooring, Cream	None Detected
CL1120908	0208-B-3	Sheet Flooring, Cream	None Detected
CL1120909	0208-C-1	Drywall	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material
CL1120910	0208-C-2	Drywall	None Detected - Paint Layer None Detected - Paper None Detected - Wallboard Material
CL1120911	0208-C-3	Drywall	2% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material (by PLM) 2.25% Chrysotile - Paint Texture (by Point Count)
CL1120912	0208-D-1	Ceiling Drywall	2% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material (by PLM) 2.00% Chrysotile - Paint Texture (by Point Count)
CL1120913	0208-D-2	Ceiling Drywall	2% Chrysotile - Paint Texture None Detected - Paper None Detected - Wallboard Material (by PLM) 2.00% Chrysotile - Paint Texture (by Point Count)

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

# PLM REPORT SUMMARY



**Cates Laboratories**

1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287

Client:	A&M Engineering & Environmental Services	Lab Job No.:	PLM-32532
Project (Line 1):	Cherokee Nation Business	Set No.:	46824
Project (Line 2):	1500 West Young Avenue, Stillwell, OK	Report Date:	2/23/2023
Project No:	1668-0046	Sample Date:	2/8/2023
Identification:	Asbestos, Bulk Sample Analysis	Version:	PC1
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

Page 2 of 3

On 2/10/2023, twelve (12) bulk samples were submitted by Mr. Jeff Jenkins of A&M Engineering & Environmental Services for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL1120914	0208-D-3	Ceiling Drywall	2% Chrysotile - Paint Texture (by PLM) 1.50% Chrysotile - Paint Texture (by Point Count)

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.



**Cates Laboratories**  
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 Dallas, Texas 75207 (214) 920-5006

**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
 TDSHS License No. 30-0287

Client: **A&M Engineering & Environmental Services**  
 Project (Line 1): **Cherokee Nation Business**  
 Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
 Project #: **1668-0046**  
 Field ID #: **0208-A-1**

Lab Proj #: **PLM-32532**  
 Set #: **46824**  
 Sample #: **CL1120903**  
 Page 1 of 1

Sample Description: **Sheet Flooring, Brown**

**Layer 1 Flooring**

Stereoscopic Examination

	Color		Texture		Homogeneous?	% Fibrous	% Asbestos	% of Sample	
	Brown/White		Rubbery		Yes	5	ND	100	
PLM Examination:									
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
<b>Glass Fibers</b>	<b>5</b>		<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Synthetic Foam</b>	<b>45</b>		<b>Closed Cells</b>						
<b>Aggregate/Vinyl Binders</b>	<b>50</b>		<b>Non-fibrous</b>						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**  
 Date Analyzed: **2/16/2023**

Lab Job #: **PLM-32532**      Sample #: **CL1120903**





**Cates Laboratories**  
 1339 Motor Circle  
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**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
 TDSHS License No. 30-0287

Client: **A&M Engineering & Environmental Services**  
 Project (Line 1): **Cherokee Nation Business**  
 Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
 Project #: **1668-0046**  
 Field ID #: **0208-A-2**

Lab Proj #: **PLM-32532**  
 Set #: **46824**  
 Sample #: **CL1120904**  
 Page 1 of 1

Sample Description: **Sheet Flooring, Brown**

**Layer 1 Flooring**

Stereoscopic Examination

	Color		Texture		Homogeneous?	% Fibrous	% Asbestos	% of Sample	
	Brown/White		Rubbery		Yes	5	ND	100	
PLM Examination:									
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
<b>Glass Fibers</b>	<b>5</b>		<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Synthetic Foam</b>	<b>45</b>		<b>Closed Cells</b>						
<b>Aggregate/Vinyl Binders</b>	<b>50</b>		<b>Non-fibrous</b>						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**  
 Date Analyzed: **2/16/2023**

Lab Job #: **PLM-32532** Sample #: **CL1120904**

**Cates Laboratories**1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287Client: **A&M Engineering & Environmental Services**  
Project (Line 1): **Cherokee Nation Business**  
Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
Project #: **1668-0046**  
Field ID #: **0208-A-3**Lab Proj #: **PLM-32532**  
Set #: **46824**  
Sample #: **CL1120905**  
Page 1 of 1Sample Description: **Sheet Flooring, Brown****Layer 1 Flooring**

## Stereoscopic Examination

			Color		Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
			Brown/White		Rubbery	Yes	5	ND	100
PLM Examination:									
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
<b>Glass Fibers</b>	<b>5</b>		<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Synthetic Foam</b>	<b>45</b>		<b>Closed Cells</b>						
<b>Aggregate/Vinyl Binders</b>	<b>50</b>		<b>Non-fibrous</b>						

Prep/treatment: **heat / melt**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**  
Date Analyzed: **2/16/2023**Lab Job #: **PLM-32532** Sample #: **CL1120905**

**Cates Laboratories**1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287Client: **A&M Engineering & Environmental Services**  
Project (Line 1): **Cherokee Nation Business**  
Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
Project #: **1668-0046**  
Field ID #: **0208-B-1**Lab Proj #: **PLM-32532**  
Set #: **46824**  
Sample #: **CL1120906**  
Page 1 of 1Sample Description: **Sheet Flooring, Cream****Layer 1 Flooring**

## Stereoscopic Examination

			Color		Texture		Homogeneous?	% Fibrous	% Asbestos	% of Sample
			Cream/White		Rubbery		Yes	5	ND	100
PLM Examination:										
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation	
<b>Glass Fibers</b>	<b>5</b>		<b>straight</b>	<b>none</b>			<b>none</b>			
<b>Synthetic Foam</b>	<b>45</b>		<b>Closed Cells</b>							
<b>Aggregate/Vinyl Binders</b>	<b>50</b>		<b>Non-fibrous</b>							

Prep/treatment: **heat / melt**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**  
Date Analyzed: **2/16/2023**Lab Job #: **PLM-32532** Sample #: **CL1120906**



**Cates Laboratories**  
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**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
 TDSHS License No. 30-0287

Client: **A&M Engineering & Environmental Services**  
 Project (Line 1): **Cherokee Nation Business**  
 Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
 Project #: **1668-0046**  
 Field ID #: **0208-B-2**

Lab Proj #: **PLM-32532**  
 Set #: **46824**  
 Sample #: **CL1120907**  
 Page 1 of 1

Sample Description: **Sheet Flooring, Cream**

**Layer 1 Flooring**

Stereoscopic Examination

	Color		Texture		Homogeneous?	% Fibrous	% Asbestos	% of Sample	
	Cream/White		Rubbery		Yes	5	ND	100	
PLM Examination:									
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
<b>Glass Fibers</b>	<b>5</b>		<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Synthetic Foam</b>	<b>45</b>		<b>Closed Cells</b>						
<b>Aggregate/Vinyl Binders</b>	<b>50</b>		<b>Non-fibrous</b>						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**  
 Date Analyzed: **2/16/2023**

Lab Job #: **PLM-32532** Sample #: **CL1120907**



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**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
 TDSHS License No. 30-0287

Client: **A&M Engineering & Environmental Services**  
 Project (Line 1): **Cherokee Nation Business**  
 Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
 Project #: **1668-0046**  
 Field ID #: **0208-B-3**

Lab Proj #: **PLM-32532**  
 Set #: **46824**  
 Sample #: **CL1120908**  
 Page 1 of 1

Sample Description: **Sheet Flooring, Cream**

**Layer 1 Flooring**

Stereoscopic Examination

			Color		Texture		Homogeneous?	% Fibrous	% Asbestos	% of Sample
			Cream/White		Rubbery		Yes	5	ND	100
PLM Examination:										
Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation	
<b>Glass Fibers</b>	<b>5</b>		<b>straight</b>	<b>none</b>			<b>none</b>			
<b>Synthetic Foam</b>	<b>45</b>		<b>Closed Cells</b>							
<b>Aggregate/Vinyl Binders</b>	<b>50</b>		<b>Non-fibrous</b>							

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**  
 Date Analyzed: **2/16/2023**

Lab Job #: **PLM-32532** Sample #: **CL1120908**



**Bulk Asbestos Analysis Sheet**

Client: **A&M Engineering & Environmental Services**  
 Project (Line 1): **Cherokee Nation Business**  
 Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
 Project #: **1668-0046**  
 Field ID #: **0208-C-1**  
 Sample Description: **Drywall**

Lab Proj #: **PLM-32532**  
 Set #: **46824**  
 Sample #: **CL1120909**  
 Page 1 of 1

**Layer 1 Paint Layer**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
<b>Cream</b>	<b>Rubbery</b>	<b>Yes</b>	<b>ND</b>	<b>ND</b>	<b>5</b>

PLM Examination:

<u>Components</u>	<u>% +/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Paint</b>	<b>100</b>							

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

**Layer 2 Paper**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
<b>Tan</b>	<b>Fibrous</b>	<b>Yes</b>	<b>100</b>	<b>ND</b>	<b>10</b>

PLM Examination:

<u>Components</u>	<u>% +/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Cellulose Fibers</b>	<b>100</b>	<b>ribbons</b>				<b>high</b>		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

**Layer 3 Wallboard Material**

Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
<b>White</b>	<b>Blocky</b>	<b>Yes</b>	<b>1</b>	<b>ND</b>	<b>85</b>

PLM Examination:

<u>Components</u>	<u>% +/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Glass Fibers</b>	<b>1</b>	<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Aggregate</b>	<b>4</b>	<b>Non-fibrous</b>						
<b>Gypsum Binders</b>	<b>95</b>	<b>Non-fibrous</b>						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**  
 Date Analyzed: **2/16/2023**

Lab Job #: **PLM-32532**      Sample #: **CL1120909**

**Cates Laboratories**1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287

Client: **A&M Engineering & Environmental Services**  
 Project (Line 1): **Cherokee Nation Business**  
 Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
 Project #: **1668-0046**  
 Field ID #: **0208-C-2**  
 Sample Description: **Drywall**

Lab Proj #: **PLM-32532**  
 Set #: **46824**  
 Sample #: **CL1120910**  
 Page 1 of 1

**Layer 1 Paint Layer**

## Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
<b>Cream</b>	<b>Rubbery</b>	<b>Yes</b>	<b>ND</b>	<b>ND</b>	<b>5</b>

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Paint</b>	<b>100</b>								

Prep/treatment: **heat / melt**Asbestos Content: **None Detected****Layer 2 Paper**

## Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
<b>Tan</b>	<b>Fibrous</b>	<b>Yes</b>	<b>100</b>	<b>ND</b>	<b>10</b>

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Cellulose Fibers</b>	<b>100</b>		<b>ribbons</b>				<b>high</b>		

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected****Layer 3 Wallboard Material**

## Stereoscopic Examination

<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
<b>White</b>	<b>Blocky</b>	<b>Yes</b>	<b>1</b>	<b>ND</b>	<b>85</b>

PLM Examination:

<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Glass Fibers</b>	<b>1</b>		<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Aggregate</b>	<b>4</b>		<b>Non-fibrous</b>						
<b>Gypsum Binders</b>	<b>95</b>		<b>Non-fibrous</b>						

Prep/treatment: **mechanical separation**Asbestos Content: **None Detected**

Comments:

Analyst: **John R. Cates**Date Analyzed: **2/16/2023**Lab Job #: **PLM-32532**Sample #: **CL1120910**



# Cates Laboratories

1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006

## Bulk Asbestos Analysis Sheet

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287

Client: **A&M Engineering & Environmental Services**  
Project (Line 1): **Cherokee Nation Business**  
Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
Project #: **1668-0046**  
Field ID #: **0208-C-3**  
Sample Description: **Drywall**

Lab Proj #: **PLM-32532**  
Set #: **46824**  
Sample #: **CL1120911**  
Page 1 of 1

### Layer 1 Paint Texture

#### Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>Cream/White</b>	<b>Blocky</b>	<b>Yes</b>	<b>ND</b>	<b>ND</b>	<b>20</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Chrysotile</b>	<b>2</b>	<b>2</b>	<b>Silky / Wavy</b>	<b>None</b>	<b>1.556</b>	<b>1.549</b>	<b>low</b>	<b>Parallel</b>	<b>+</b>
<b>Aggregate/Binders/Paint</b>	<b>98</b>		<b>Non-fibrous</b>						
<u>Prep/treatment:</u> <b>solvent dissolution</b>					<u>Asbestos Content:</u> <b>2% Chrysotile (by PLM)</b> <b>2.25% Chrysotile - Paint Texture (by Point Count)</b>				

### Layer 2 Paper

#### Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>Tan</b>	<b>Fibrous</b>	<b>Yes</b>	<b>100</b>	<b>ND</b>	<b>10</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Cellulose Fibers</b>	<b>100</b>		<b>ribbons</b>				<b>high</b>		
<u>Prep/treatment:</u> <b>mechanical separation</b>					<u>Asbestos Content:</u> <b>None Detected</b>				

### Layer 3 Wallboard Material

#### Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>White</b>	<b>Blocky</b>	<b>Yes</b>	<b>1</b>	<b>ND</b>	<b>70</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Glass Fibers</b>	<b>1</b>		<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Aggregate</b>	<b>4</b>		<b>Non-fibrous</b>						
<b>Gypsum Binders</b>	<b>95</b>		<b>Non-fibrous</b>						
<u>Prep/treatment:</u> <b>mechanical separation</b>					<u>Asbestos Content:</u> <b>None Detected</b>				

Comments: **Point Count performed by John R. Cates on 2/23/2023**

Analyst: **John R. Cates**

Date Analyzed: **2/16/2023**

Lab Job #: **PLM-32532**

Sample #: **CL1120911**



**Cates Laboratories**1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287Client: **A&M Engineering & Environmental Services**  
Project (Line 1): **Cherokee Nation Business**  
Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
Project #: **1668-0046**  
Field ID #: **0208-D-1**Lab Proj #: **PLM-32532**  
Set #: **46824**  
Sample #: **CL1120912**  
Page 1 of 1Sample Description: **Ceiling Drywall****Layer 1 Paint Texture**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>Cream/White</b>	<b>Blocky</b>	<b>Yes</b>	<b>ND</b>	<b>ND</b>	<b>20</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Chrysotile</b>	<b>2</b>	<b>2</b>	<b>Silky / Wavy</b>	<b>None</b>	<b>1.556</b>	<b>1.549</b>	<b>low</b>	<b>Parallel</b>	<b>+</b>
<b>Aggregate/Binders/Paint</b>	<b>98</b>		<b>Non-fibrous</b>						
<u>Prep/treatment:</u> <b>solvent dissolution</b>			<u>Asbestos Content:</u> <b>2% Chrysotile (by PLM)</b> <b>2.00% Chrysotile - Paint Texture (by Point Count)</b>						

**Layer 2 Paper**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>Tan</b>	<b>Fibrous</b>	<b>Yes</b>	<b>100</b>	<b>ND</b>	<b>10</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Cellulose Fibers</b>	<b>100</b>		<b>ribbons</b>				<b>high</b>		
<u>Prep/treatment:</u> <b>mechanical separation</b>			<u>Asbestos Content:</u> <b>None Detected</b>						

**Layer 3 Wallboard Material**

Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>White</b>	<b>Blocky</b>	<b>Yes</b>	<b>1</b>	<b>ND</b>	<b>70</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Cellulose Fibers</b>	<b>1</b>		<b>ribbons</b>				<b>high</b>		
<b>Aggregate</b>	<b>4</b>		<b>Non-fibrous</b>						
<b>Gypsum Binders</b>	<b>95</b>		<b>Non-fibrous</b>						
<u>Prep/treatment:</u> <b>mechanical separation</b>			<u>Asbestos Content:</u> <b>None Detected</b>						

Comments: **Point Count performed by John R. Cates on 2/23/2023**Analyst: **John R. Cates**Date Analyzed: **2/16/2023**Lab Job #: **PLM-32532**Sample #: **CL1120912**

**Cates Laboratories**1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287Client: **A&M Engineering & Environmental Services**  
Project (Line 1): **Cherokee Nation Business**  
Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
Project #: **1668-0046**  
Field ID #: **0208-D-2**Lab Proj #: **PLM-32532**  
Set #: **46824**  
Sample #: **CL1120913**  
Page 1 of 1Sample Description: **Ceiling Drywall****Layer 1 Paint Texture**

## Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>Cream/White</b>	<b>Blocky</b>	<b>Yes</b>	<b>ND</b>	<b>ND</b>	<b>20</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Chrysotile</b>	<b>2</b>	<b>2</b>	<b>Silky / Wavy</b>	<b>None</b>	<b>1.556</b>	<b>1.549</b>	<b>low</b>	<b>Parallel</b>	<b>+</b>
<b>Aggregate/Binders/Paint</b>	<b>98</b>		<b>Non-fibrous</b>						
<u>Prep/treatment:</u> <b>solvent dissolution</b>			<u>Asbestos Content:</u> <b>2% Chrysotile (by PLM)</b> <b>2.00% Chrysotile - Paint Texture (by Point Count)</b>						

**Layer 2 Paper**

## Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>Tan</b>	<b>Fibrous</b>	<b>Yes</b>	<b>100</b>	<b>ND</b>	<b>10</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Cellulose Fibers</b>	<b>100</b>		<b>ribbons</b>				<b>high</b>		
<u>Prep/treatment:</u> <b>mechanical separation</b>			<u>Asbestos Content:</u> <b>None Detected</b>						

**Layer 3 Wallboard Material**

## Stereoscopic Examination

			<u>Color</u>	<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>	
PLM Examination:			<b>White</b>	<b>Blocky</b>	<b>Yes</b>	<b>1</b>	<b>ND</b>	<b>70</b>	
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Glass Fibers</b>	<b>1</b>		<b>straight</b>	<b>none</b>			<b>none</b>		
<b>Aggregate</b>	<b>4</b>		<b>Non-fibrous</b>						
<b>Gypsum Binders</b>	<b>95</b>		<b>Non-fibrous</b>						
<u>Prep/treatment:</u> <b>mechanical separation</b>			<u>Asbestos Content:</u> <b>None Detected</b>						

Comments: **Point Count performed by John R. Cates on 2/23/2023**Analyst: **John R. Cates**Date Analyzed: **2/16/2023**Lab Job #: **PLM-32532**Sample #: **CL1120913**



**Cates Laboratories**  
 1339 Motor Circle  
 Dallas, Texas 75207 (214) 920-5006

**Bulk Asbestos Analysis Sheet**

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0  
 TDSHS License No. 30-0287

Client: **A&M Engineering & Environmental Services**  
 Project (Line 1): **Cherokee Nation Business**  
 Project (Line 2): **1500 West Young Avenue, Stillwell, OK**  
 Project #: **1668-0046**  
 Field ID #: **0208-D-3**  
 Sample Description: **Ceiling Drywall**

Lab Proj #: **PLM-32532**  
 Set #: **46824**  
 Sample #: **CL1120914**  
 Page 1 of 1

**Layer 1 Paint Texture**

Stereoscopic Examination

			<u>Color</u>		<u>Texture</u>	<u>Homogeneous?</u>	<u>% Fibrous</u>	<u>% Asbestos</u>	<u>% of Sample</u>
			<b>Cream/White</b>		<b>Blocky</b>	<b>Yes</b>	<b>ND</b>	<b>ND</b>	<b>100</b>
PLM Examination:									
<u>Components</u>	<u>%</u>	<u>+/-</u>	<u>Morphology</u>	<u>Color/ Pleochroism</u>	<u>Parallel Ref. Index</u>	<u>Perpendicular Ref. Index</u>	<u>Biref</u>	<u>Extinction Angle</u>	<u>Sign of Elongation</u>
<b>Chrysotile</b>	<b>2</b>	<b>2</b>	<b>Silky / Wavy</b>	<b>None</b>	<b>1.556</b>	<b>1.549</b>	<b>low</b>	<b>Parallel</b>	<b>+</b>
<b>Aggregate/Binders/Paint</b>	<b>98</b>		<b>Non-fibrous</b>						
<u>Prep/treatment:</u>	<b>solvent dissolution</b>			<u>Asbestos Content:</u>		<b>2% Chrysotile (by PLM) 1.50% Chrysotile - Paint Texture (by Point Count)</b>			

Comments: **Point Count performed by John R. Cates on 2/23/2023**

Analyst: **John R. Cates**  
 Date Analyzed: **2/16/2023**

Lab Job #: **PLM-32532**      Sample #: **CL1120914**

## PLM REPORT SUMMARY



**Cates Laboratories**

1339 Motor Circle  
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0  
TDSHS License No. 30-0287

Client:	A&M Engineering & Environmental Services	Lab Job No.:	PLM-32532
Project (Line 1):	Cherokee Nation Business	Set No.:	46824
Project (Line 2):	1500 West Young Avenue, Stillwell, OK	Report Date:	2/23/2023
Project No:	1668-0046	Sample Date:	2/8/2023
Identification:	Asbestos, Bulk Sample Analysis Version:	Version:	PC1
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

Page 3 of 3

On 2/10/2023, twelve (12) bulk samples were submitted by Mr. Jeff Jenkins of A&M Engineering & Environmental Services for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

### STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the U.S. EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples as found in 40 CFR, Part 763, Subpart E, Appendix E (formerly Subpart F, Appendix A), or the current U.S. EPA method (EPA Method 600/R-93/116) for the analysis of asbestos in building materials, by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: John R. Cates

Laboratory Director: John R. Cates, P.G.

Approved Signatory:

A handwritten signature in black ink, appearing to read 'John R. Cates'.



TESTING  
NVLAP LAB CODE 200569-0



# CATES LABORATORIES

## CHAIN OF CUSTODY

CL Project No. PLM-32532  
 (Lab Only) SET-46824

Company: A & M Engineering and Environmental Services  
 Contact/Results to: Jeff Jenkins & Justin Scott Verbal  Email  Fax  (check all that apply)  
 Email(s): jjenkins@aandengineering.com & jscott@aandengineering.com  
 Telephone No.: 918-665-6575 Fax No.: \_\_\_\_\_

Project Information  
 Project: Cherokee Nation Business Project No.: 1668-0046  
 Address: 1500 West Young Avenue; Stillwell, OK P.O. No.: 1668-0046

Turnaround (check one)  
 CLEARANCE (PCM)  ASAP (SAME DAY)  RUSH (1-DAY)  STANDARD (2-DAY)  3-4-DAY  5-DAY  (IMMEDIATE)

Testing Services (check all that apply)

Asbestos		IAQ - Mold (Non-Viable)	
<b>PLM-BULK</b>	<input checked="" type="checkbox"/>	<b>AIR (spore trap) - Standard Profile (count/genus identification)</b>	<input type="checkbox"/>
EPA 600/R-93/116	<input checked="" type="checkbox"/>	<b>AIR (spore trap) - Expanded Profile (w/insect parts/pollen/skin)</b>	<input type="checkbox"/>
Point Count (400)	<input type="checkbox"/>	<b>BULK (tape lift, swab) - Standard Profile (genus identification)</b>	<input type="checkbox"/>
<b>PCM-AIR</b>	<input type="checkbox"/>		
NIOSH 7400	<input type="checkbox"/>		
OSHA TWA	<input type="checkbox"/>		

CatesLab No. Range (Lab Only): 1120903 - 1120914 Sample Date: 2-8-2023  
 No. of Samples: 12 Positive Stop: Yes  No

Sample No	Sample Description/Location	Volume (air only)
<u>0208-A-1</u>	<u>Sheets flooring brown</u>	
<u>A-2</u>	<u>" "</u>	
<u>A-3</u>	<u>" "</u>	
<u>B-1</u>	<u>Sheets flooring - cream</u>	
<u>B-2</u>	<u>" "</u>	
<u>B-3</u>	<u>" "</u>	
<u>C-1</u>	<u>Drywall</u>	
<u>C-2</u>	<u>" "</u>	
<u>C-3</u>	<u>" "</u>	
<u>D-1</u>	<u>Ceiling Drywall</u>	
<u>D-2</u>	<u>" "</u>	
<u>D-3</u>	<u>" "</u>	

Relinquished By: <u>[Signature]</u>	Date/Time: <u>2/9/23 13:00</u>	Received By: <u>[Signature]</u>	Date/Time: <u>2-10-23 13:38</u>
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**Appendix D**  
(Performance Characteristic Sheets)

## Performance Characteristic Sheet

**EFFECTIVE DATE:** February 1, 2022

**MANUFACTURER AND MODEL:**

Make: **SciAps**  
 Models: **Model X-550**  
 X-Ray Source: **Rhodium (Rh) or Gold (Au) Anode**

### FIELD OPERATION GUIDANCE

**ACTION LEVEL SETTING:**

1.0 mg/cm<sup>2</sup>

**OPERATING PARAMETERS:**

Timed mode: fixed 10-second reading.

Quick mode: variable-time reading (approximately 2-6 seconds).

**XRF CALIBRATION CHECK LIMITS:**

0.8 to 1.2 mg/cm<sup>2</sup> (inclusive) on NIST SRM 2579 (1.02 mg/cm<sup>2</sup>)/NIST SRM 2573, or equivalent

**SUBSTRATE CORRECTION:**

Not applicable

**INCONCLUSIVE RANGE OR THRESHOLD:**

Au Anode (quick) READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm <sup>2</sup> )
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0
Rh Anode (Timed or Quick), Au Anode (Timed) READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm <sup>2</sup> )
Results not corrected for substrate bias on any substrate	Brick	0.9
	Concrete	0.9
	Drywall	0.9
	Metal	0.9
	Plaster	0.9
	Wood	0.9

## BACKGROUND INFORMATION

### EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Edition ("HUD Guidelines"). Performance parameters shown on this sheet are calculated using test results on building components in the HUD archive. Testing was conducted on 146 test samples in February 2022, with two separate instruments of each Anode type, operated in both Timed and Quick modes.

### OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

### XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm<sup>2</sup> in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm<sup>2</sup> film; for NIST SRM 2579a, use film 2573 (1.04 mg/cm<sup>2</sup>)).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

### EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below. Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this



procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

#### TESTING TIMES:

The reading time in Archive tests was 10 seconds in Timed mode and from 2-6 seconds in Quick mode, for both the Rh Anode and Au Anode.

#### CLASSIFICATION OF RESULTS:

XRF results for the Au Anode in Quick mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm<sup>2</sup> and **negative** if they are **less than** to 1.0 mg/cm<sup>2</sup>. XRF results for the Au Anode in Timed mode and for the Rh Anode in Timed or Quick mode are classified as **positive** if they are **greater than or equal** to 0.9 mg/cm<sup>2</sup> and **negative** if they are **less than** to 0.9 mg/cm<sup>2</sup>

#### DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm<sup>2</sup> and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. The report may be downloaded at <http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997>.



# National Institute of Standards & Technology

## Certificate of Analysis

### Standard Reference Material<sup>®</sup> 2579a

#### Lead Paint Films for Building Surfaces (SRM 2570 through SRM 2575)

This Standard Reference Material (SRM) is intended for validation of results from portable, hand-held, X-ray fluorescence analyzers, when testing for lead in paint coatings on interior and exterior building surfaces. A unit of SRM 2579a consists of a set of six coated polyester sheets, approximately 7.6 cm wide and 10.2 cm long. Five of the six sheets, SRM 2571 through SRM 2575, are coated with a single, uniform paint layer. The units are color coded, and each color indicates a different lead areic mass. The sixth sheet, SRM 2570, is coated with a lead-free, lacquer layer of the same thickness as a lead paint layer and is intended as a blank. All sheets are over-coated with a clear, thin, plastic laminate to protect the surface from abrasion.

**Certified Values:** The measurand is the total lead areic mass in cured paint for each level listed below [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy, in that all known or suspected sources of bias have been investigated or taken into account [2]. Value assignment categories are based on the definitions of terms and modes used at NIST for certification of chemical reference materials [2]. The certified value is based on measurements by isotope dilution inductively-coupled plasma mass spectrometry (ID-ICP-MS).

Level	Color	Lead Areic Mass (mg/cm <sup>2</sup> )
SRM 2570	White (blank)	< 0.001
SRM 2571	Yellow	3.58 ± 0.39
SRM 2572	Orange	1.527 ± 0.091
SRM 2573	Red	1.040 ± 0.064
SRM 2574	Gold	0.714 ± 0.083
SRM 2575	Green	0.307 ± 0.021

The uncertainty associated with each certified value is an expanded uncertainty,  $U$ , and was evaluated in accordance with the ISO/JCGM Guides [3,4]. Because of variability in the paint film between different sheets of each SRM, the uncertainties are 95 % prediction intervals. The expanded uncertainty is calculated as  $U = ku_c$ , where  $u_c$  is intended to represent, at the level of one standard deviation, the combined uncertainty due to material variability and measurement uncertainty. The coverage factor,  $k$ , is determined from the Student's  $t$ -distribution corresponding to the calculated effective degrees of freedom and 95 % level of confidence. Metrological traceability is to the SI units for mass and length (expressed as milligrams per centimeter-squared).

**Expiration of Certification:** The certification of SRM 2579a is valid, within the measurement uncertainty specified, until **01 July 2026**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Use"). The certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

**Maintenance of SRM Certification:** NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register) will facilitate notification.

Coordination of technical measurements for the certification of this SRM was performed by G.C. Turk and J.D. Fassett of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief  
Chemical Sciences Division

Steven J. Choquette, Acting Director  
Office of Reference Materials

Gaithersburg, MD 20899  
Certificate Issue Date: 14 April 2016  
Certificate Revision History on Last Page

## REFERENCES

- [1] Thompson, A.; Taylor, B.N.; *Guide for the Use of the International System of Units (SI)*; NIST Special Publication 811; U.S. Government Printing Office: Washington, DC (2008); available at [www.nist.gov/pml/pubs/index.cfm/](http://www.nist.gov/pml/pubs/index.cfm/) (accessed Mar 2016).
- [2] May, W.; Parris, R.; Beck, C.; Fassett, J.; Greenberg, R.; Guenther, F.; Kramer, G.; Wise, S.; Gills, T.; Colbert, J.; Gettings, R.; MacDonald, B.; *Definitions of Terms and Modes Used at NIST for Value Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136; U.S. Government Printing Office: Washington, DC (2000); available at [www.nist.gov/srm/publications.cfm](http://www.nist.gov/srm/publications.cfm) (accessed Mar 2016).
- [3] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement (GUM 1995 with Minor Corrections)*; Joint Committee for Guides in Metrology (JCGM) (2008); available at [http://www.bipm.org/utis/common/documents/jcgm/JCGM\\_100\\_2008\\_E.pdf](http://www.bipm.org/utis/common/documents/jcgm/JCGM_100_2008_E.pdf) (accessed Mar 2016); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at <http://www.nist.gov/pml/pubs/index.cfm> (accessed Mar 2016).
- [4] Hahn, G.J.; Meeker, W.Q.; *Statistical Intervals: A Guide for Practitioners*; John Wiley & Sons, Inc., New York, NY (1991).

**Certificate Revision History:** 14 April 2016 (Change of expiration date; editorial changes); 24 March 2009 (Extension of certification period); 29 November 1999 (Original certificate date).

*Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail [srminfo@nist.gov](mailto:srminfo@nist.gov); or via the Internet at <http://www.nist.gov/srm>.*



# National Institute of Standards & Technology

## Certificate of Analysis

### Standard Reference Material<sup>®</sup> 2573

#### Lead Paint Film for Building Surfaces

(Nominal Pb 1.0 mg/cm<sup>2</sup>) (Color: Red)

This Standard Reference Material (SRM) is intended for validation of results from portable, hand-held, X-ray fluorescence analyzers, when testing for lead in paint coatings on interior and exterior building surfaces. A unit of SRM 2573 consists of a white polyester sheet, approximately 7.6 cm wide, 10.2 cm long, and 0.2 mm thick, coated with a single, red-colored paint layer, approximately 0.04 mm thick. Included is one unit of SRM 2570, which is coated with a lead-free, lacquer layer of the same thickness as a lead paint layer and is intended as a blank. All sheets are over-coated with a clear, thin, plastic laminate to protect the surface from abrasion.

**Certified Values:** The measurand is the total lead areic mass in cured paint for each level listed below [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy, in that all known or suspected sources of bias have been investigated or taken into account [2]. Value assignment categories are based on the definitions of terms and modes used at NIST for certification of chemical reference materials [2]. The certified value is based on measurements by isotope dilution inductively coupled plasma mass spectrometry (ID-ICP-MS).

Level	Color	Lead Areic Mass (mg/cm <sup>2</sup> )
SRM 2570	White (blank)	< 0.001
SRM 2573	Red	1.040 ± 0.064

The uncertainty associated with each certified value is an expanded uncertainty,  $U$ , and was evaluated in accordance with the ISO/JCGM Guides [3,4]. Because of variability in the paint film between different sheets of each SRM, the uncertainties are 95 % prediction intervals. The expanded uncertainty is calculated as  $U = ku_c$ , where  $u_c$  is intended to represent, at the level of one standard deviation, the combined uncertainty due to material variability and measurement uncertainty. The coverage factor,  $k$ , is determined from the Student's  $t$ -distribution corresponding to the calculated effective degrees of freedom and 95 % level of confidence. Metrological traceability is to the SI units for mass and length (expressed as milligrams per centimeter-squared).

**Expiration of Certification:** The certification of **SRM 2573** is valid, within the measurement uncertainty specified, until **01 July 2026**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Use"). The certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

**Maintenance of SRM Certification:** NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register) will facilitate notification.

Coordination of technical measurements for the certification of this SRM was performed by G.C. Turk and J.D. Fassett of the NIST Chemical Sciences Division.

Measurements for value assignments of this SRM were performed by K.E. Murphy, J.R. Sieber, A.F. Marlow, L.J. Wood, P.R. Seo, and M. Lankosz of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief  
Chemical Sciences Division

Gaithersburg, MD 20899  
Certificate Issue Date: 14 April 2016  
*Certificate Revision History on Last Page*

Steven J. Choquette, Acting Director  
Office of Reference Materials

## REFERENCES

- [1] Thompson, A.; Taylor, B.N.; *Guide for the Use of the International System of Units (SI)*; NIST Special Publication 811; U.S. Government Printing Office: Washington, DC (2008); available at [www.nist.gov/pml/pubs/index.cfm/](http://www.nist.gov/pml/pubs/index.cfm/) (accessed Mar 2016).
- [2] May, W.; Parris, R.; Beck, C.; Fassett, J.; Greenberg, R.; Guenther, F.; Kramer, G.; Wise, S.; Gills, T.; Colbert, J.; Gettings, R.; MacDonald, B.; *Definitions of Terms and Modes Used at NIST for Value Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136; U.S. Government Printing Office: Washington, DC (2000); available at [www.nist.gov/srm/publications.cfm](http://www.nist.gov/srm/publications.cfm) (accessed Mar 2016).
- [3] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement (GUM 1995 with Minor Corrections)*; Joint Committee for Guides in Metrology (JCGM) (2008); available at [http://www.bipm.org/utis/common/documents/jcgm/JCGM\\_100\\_2008\\_E.pdf](http://www.bipm.org/utis/common/documents/jcgm/JCGM_100_2008_E.pdf) (accessed Mar 2016); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at <http://www.nist.gov/pml/pubs/index.cfm> (accessed Mar 2016).
- [4] Hahn, G.J.; Meeker, W.Q.; *Statistical Intervals: A Guide for Practitioners*; John Wiley & Sons, Inc., New York, NY (1991).

**Certificate Revision History:** 14 April 2016 (Change of expiration date; editorial changes); 24 March 2009 (Extension of certification period); 29 November 1999 (Original certificate date).

*Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail [srminfo@nist.gov](mailto:srminfo@nist.gov); or via the Internet at <http://www.nist.gov/srm>.*

**Appendix E**  
**(Certificate of Lead Findings)**

## CERTIFICATE OF LEAD FINDINGS

This Certificate of Lead Findings applies to the Lead Based Paint (LBP) Inspection conducted at:

**Residential Property**  
**1500 West Young Avenue**  
**Stilwell, Adair County, Oklahoma 74950**

A LBP Inspection (Inspection) was conducted on February 28, 2023 by representatives of A & M Engineering and Environmental Services, Inc. (A & M). This Inspection was performed by an Oklahoma licensed LBP Risk Assessor. Our Inspection findings are provided below:

Potential Lead Sources	Positives*	Negatives	Not Applicable	Comments
Interior LBP		X		
Exterior LBP		X		
Drinking Water			X	Not Tested

\*Positive findings are described below. LBP = Lead Based Paint

### Positive Findings

LBP identified in the following child-occupied locations onsite is considered a potential lead hazard:

- None

### Disclaimer

This Inspection was conducted in accordance with current standard and acceptable practices complying with regulations promulgated by the United States Environmental Protection Agency (USEPA) and the United States Department of Housing and Urban Development (HUD). The findings identified above apply only to the building(s), water, and/or soils tested onsite, and are limited to only those areas with the potential to be classified as child occupied as defined by USEPA regulations. A & M did not inspect any other areas and makes no determination for the potential for LBP within any materials or areas not tested.

### A & M Engineering and Environmental Services, Inc.

Oklahoma Firm Lead License No. OKFIRM11301 (expiration date 3/31/2023)



Jeffrey L. Jenkins, CIH, CSP  
Senior Industrial Hygienist

Oklahoma LBP Risk Assessor No. OKRASR13417 (expiration date 3/31/2023)

**Appendix F  
(XRF Data)**



10:10 AM

Reading #	Room	Side	Component	Substrate	Color	Lead Conc. (mg/cm <sup>2</sup> )
1	SRM 2570					ND
2						ND
3						ND
4	SRM 2573					1.0
5	"					1.1
6	"					1.0
7	Exterior	A	Porch floor	wood	Green	ND
8	Porch	A	Ceiling		White	ND
9		B	Fascia		w/5-5c	0.7
10	Compartment	B	Door		Tan	ND
11		B	Wall		w/5-5c	ND
12			Door frame		White	ND
13			Door		w/5-5c	ND
14		C	Fascia			ND
15		D	Door frame			ND
16			Door			ND
17			Fascia			0.6
28	Bathroom	A	Wall		Cream	ND
19		B				ND
20		C				ND
21		D				ND
22			Ceiling			ND
23		C	Door frame		White	ND
24		D	Hot water closet		Brown	ND
25		B	Vanities		Brown	ND
26		A	Door		"	ND
27	Dining room	A	Wall		Cream	ND
28		B				ND
29		C				ND
30		D				ND
31		B	Window frame			ND
32			" sill			ND
33	Kitchen	A	Wall		Cream	ND
34		B				ND

Facility: Cherokee Nation Business  
 Location: 1500 West Young Avenue, Stillwell, OK

A M Engineering and Environmental Project #:1668-0046

Reading #	Room	Side	Component	Substrate	Color	Lead Conc. (mg/cm <sup>2</sup> )
35	Kitchen	C	Wall	Wood	Green	ND
36		D				ND
37		C	Cabinet Frame			ND
38		C	Door			ND
39		A	Frame	Cement		ND
40		D	Door Frame	Wood		ND
53 41	Food D. n.c.	B				ND
42		B				ND
43		C				ND
44		D				ND
45			Ceiling			ND
46		A	Door Frame			ND
47		D	Stair Rail			ND
48			" Tread			ND
49			Stair Spindle			ND
50	Kitchen		Ceiling			ND
63 51	Dis Bedroom	A	Wall			ND
52		B				ND
53		C				ND
54		D				ND
55			Ceiling			ND
56		D	Window Frame		White.	ND
57			Sill		White	ND
58		A	Window Frame		"	ND
59			Draw		"	ND
60		B	Door Frame		Green	ND
61			Door		White.	ND
73 62	Living Room	A	Wall			ND
63		B				ND
64		C				ND
65		D				ND
66			Ceiling			ND
67		B	Window Frame			ND
68			" Frame			ND

82

Reading #	Room	Side	Component	Substrate	Color	Lead Conc. (mg/cm <sup>2</sup> )
69	HR	C	Door frame		Green	ND
70		A	Door frame			ND
71			Door		White	ND
72			beams		Red	ND
73	h. room	A	walls		Green	ND
74		B				ND
75		C				ND
76		D				ND
77			Ceiling			ND
78			beams		Red	ND
79		D	skelers		Green	ND
80			Cabinet frame			ND
81			Door			ND
82		C	base board			ND
83	HR	C	base board			ND
84	W/S Bedroom R	A	wall			ND
85		B				ND
86		C				ND
87		D				ND
88			Ceiling			ND
89		B	Window frame			ND
90		B	Apr			ND
91		D	Door frame			ND
92		D	Doors			ND
93			floor		Green	0.7
94		A	baseboard		Green	ND
95	W/S Bedroom L	A	wall			ND
96		B				ND
97		C				ND
98		D				ND
99			Ceiling			ND
100		A	Window frame			ND
101		A	Sill			ND
102		D	Plinthe	CMH		ND

108



Date	Test #	Mode	Pb	Pb +/-
02/28/23	1	Lead Paint	1	0.1
02/27/23	2	Lead Paint	ND	< 0.1 SRM2570
02/27/23	3	Lead Paint	ND	< 0.1 SRM2570
02/27/23	4	Lead Paint	ND	< 0.1 SRM2570
02/27/23	5	Lead Paint	1.1	0.1 SRM2573
02/27/23	6	Lead Paint	1.2	0.1 SRM2573
02/27/23	7	Lead Paint	1.1	0.1 SRM2573
02/27/23	8	Lead Paint	ND	< 0.1
02/27/23	9	Lead Paint	0.9	0.1
02/27/23	10	Lead Paint	1.1	0.1
02/27/23	11	Lead Paint	ND	< 0.1
02/27/23	12	Lead Paint	ND	< 0.1
02/27/23	13	Lead Paint	ND	< 0.1
02/27/23	14	Lead Paint	1	0.1
02/27/23	15	Lead Paint	1.1	0.1
02/27/23	16	Lead Paint	1	0.1
02/27/23	17	Lead Paint	ND	< 0.1
02/27/23	18	Lead Paint	0.7	0.1
02/27/23	19	Lead Paint	ND	< 0.1
02/27/23	20	Lead Paint	ND	< 0.1
02/27/23	21	Lead Paint	ND	< 0.1
02/27/23	22	Lead Paint	ND	< 0.1
02/27/23	23	Lead Paint	ND	< 0.1
02/27/23	24	Lead Paint	ND	< 0.1
02/27/23	25	Lead Paint	ND	< 0.1
02/27/23	26	Lead Paint	ND	< 0.1
02/27/23	27	Lead Paint	0.6	0.1
02/27/23	28	Lead Paint	ND	< 0.1
02/27/23	29	Lead Paint	ND	< 0.1
02/27/23	30	Lead Paint	ND	< 0.1
02/27/23	31	Lead Paint	ND	< 0.1
02/27/23	32	Lead Paint	ND	< 0.1
02/27/23	33	Lead Paint	ND	< 0.1
02/27/23	34	Lead Paint	ND	< 0.1
02/27/23	35	Lead Paint	ND	< 0.1
02/27/23	36	Lead Paint	ND	< 0.1
02/27/23	37	Lead Paint	ND	< 0.1
02/27/23	38	Lead Paint	ND	< 0.1
02/27/23	39	Lead Paint	ND	< 0.1
02/27/23	40	Lead Paint	ND	< 0.1
02/27/23	41	Lead Paint	ND	< 0.1
02/27/23	42	Lead Paint	ND	< 0.1
02/27/23	43	Lead Paint	ND	< 0.1
02/27/23	44	Lead Paint	ND	< 0.1
02/27/23	45	Lead Paint	ND	< 0.1
02/27/23	46	Lead Paint	ND	< 0.1

02/27/23	47 Lead Paint		0	0.1
02/27/23	48 Lead Paint	ND	< 0.4	
02/27/23	49 Lead Paint		0	0
02/27/23	50 Lead Paint		0	0.1
02/27/23	51 Lead Paint	ND	< 0.1	
02/27/23	52 Lead Paint	ND	< 0.1	
02/27/23	53 Lead Paint	ND	< 0.1	
02/27/23	54 Lead Paint	ND	< 0.1	
02/27/23	55 Lead Paint	ND	< 0.1	
02/27/23	56 Lead Paint	ND	< 0.1	
02/27/23	57 Lead Paint	ND	< 0.1	
02/27/23	58 Lead Paint	ND	< 0.1	
02/27/23	59 Lead Paint	ND	< 0.1	
02/27/23	60 Lead Paint		0	0.1
02/27/23	61 Lead Paint	ND	< 0.1	
02/27/23	62 Lead Paint	ND	< 0.1	
02/27/23	63 Lead Paint	ND	< 0.1	
02/27/23	64 Lead Paint	ND	< 0.1	
02/27/23	65 Lead Paint	ND	< 0.1	
02/27/23	66 Lead Paint		0	0.1
02/27/23	67 Lead Paint	ND	< 0.1	
02/27/23	68 Lead Paint	ND	< 0.1	
02/27/23	69 Lead Paint	ND	< 0.1	
02/27/23	70 Lead Paint	ND	< 0.1	
02/27/23	71 Lead Paint	ND	< 0.1	
02/27/23	72 Lead Paint	ND	< 31.0	
02/27/23	73 Lead Paint	ND	< 0.1	
02/27/23	74 Lead Paint	ND	< 0.1	
02/27/23	75 Lead Paint	ND	< 0.1	
02/27/23	76 Lead Paint	ND	< 0.1	
02/27/23	77 Lead Paint	ND	< 0.1	
02/27/23	78 Lead Paint	ND	< 0.1	
02/27/23	79 Lead Paint	ND	< 0.1	
02/27/23	80 Lead Paint	ND	< 0.1	
02/27/23	81 Lead Paint	ND	< 0.1	
02/27/23	82 Lead Paint	ND	< 0.1	
02/27/23	83 Lead Paint	ND	< 0.1	
02/27/23	84 Lead Paint	ND	< 0.1	
02/27/23	85 Lead Paint	ND	< 0.1	
02/27/23	86 Lead Paint	ND	< 0.1	
02/27/23	87 Lead Paint	ND	< 0.1	
02/27/23	88 Lead Paint	ND	< 0.1	
02/27/23	89 Lead Paint	ND	< 0.1	
02/27/23	90 Lead Paint	ND	< 0.1	
02/27/23	91 Lead Paint	ND	< 0.1	
02/27/23	92 Lead Paint	ND	< 0.1	
02/27/23	93 Lead Paint	ND	< 0.1	

02/27/23	94 Lead Paint	ND	< 0.1	
02/27/23	95 Lead Paint	ND	< 0.1	
02/27/23	96 Lead Paint	ND	< 0.1	
02/27/23	97 Lead Paint	ND	< 0.1	
02/27/23	98 Lead Paint	ND	< 0.1	
02/27/23	99 Lead Paint	ND	< 0.1	
02/27/23	100 Lead Paint	ND	< 0.1	
02/27/23	101 Lead Paint	ND	< 0.1	
02/27/23	102 Lead Paint	ND	< 0.1	
02/27/23	103 Lead Paint	ND	< 0.1	
02/27/23	104 Lead Paint		0	0.1
02/27/23	105 Lead Paint	ND	< 0.1	
02/27/23	106 Lead Paint		0.7	0.1
02/27/23	107 Lead Paint	ND	< 0.3	
02/27/23	108 Lead Paint	ND	< 0.1	
02/27/23	109 Lead Paint	ND	< 0.1	
02/27/23	110 Lead Paint	ND	< 0.1	
02/27/23	111 Lead Paint	ND	< 0.1	
02/27/23	112 Lead Paint	ND	< 0.1	
02/27/23	113 Lead Paint		0	0.1
02/27/23	114 Lead Paint	ND	< 0.1	
02/27/23	115 Lead Paint	ND	< 0.1	
02/27/23	116 Lead Paint	ND	< 0.1	
02/27/23	117 Lead Paint		0.1	0.1
02/27/23	118 Lead Paint	ND	< 0.1	
02/27/23	119 Lead Paint	ND	< 0.1	
02/27/23	120 Lead Paint	ND	< 0.1	
02/27/23	121 Lead Paint	ND	< 0.1	
02/27/23	122 Lead Paint	ND	< 0.1	
02/27/23	123 Lead Paint	ND	< 0.1	
02/27/23	124 Lead Paint	ND	< 0.1	
02/27/23	125 Lead Paint	ND	< 0.1	
02/27/23	126 Lead Paint		0	0.1
02/27/23	127 Lead Paint	ND	< 0.1	
02/27/23	128 Lead Paint	ND	< 0.1	
02/27/23	129 Lead Paint	ND	< 0.1	SRM2570
02/27/23	130 Lead Paint	ND	< 0.1	SRM2570
02/27/23	131 Lead Paint	ND	< 0.1	SRM2570
02/27/23	132 Lead Paint		1.1	0.1 SRM2573
02/27/23	133 Lead Paint		1.1	0.1 SRM2573
02/27/23	134 Lead Paint		1	0.1 SRM2573

**Appendix G**  
**(Licenses and/or Certifications)**



**Oklahoma Department of Labor**



**Jeffrey Jenkins**

has filed in the office of the Commissioner of Labor of the State of Oklahoma  
an application for a Limited Asbestos Contractor's license for

**AHERA MANAGEMENT PLANNER**

Now, therefore, The Commissioner of Labor of the State of Oklahoma, by virtue of  
the power vested in her by law hereby issues to the applicant license

**No. OK-MP133987.**

*Leslie Osborn*

Leslie Osborn

Commissioner of Labor

January 12, 2023  
Date of Issuance

**EXPIRES: December 07, 2023**

# Department of Environmental Quality

This is to Certify that

**JEFF L JENKINS**

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Paint

**INSPECTOR/RISK ASSESSOR**

Certification #: OKRASR13417

This certification is valid from the date of issuance and expires as prescribed by law.

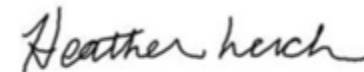
Issued on: 04/01/2022

Expires on: 03/31/2023



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Division Director  
Air Quality Division



---

Environmental Programs Manager  
Air Quality Division

United States Department of Commerce  
National Institute of Standards and Technology



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## Certificate of Accreditation to ISO/IEC 17025:2017

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NVLAP LAB CODE: 200569-0

**Cates Laboratories, Inc.**  
Dallas, TX

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

### **Asbestos Fiber Analysis**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2022-04-01 through 2023-03-31

Effective Dates

---



A handwritten signature in blue ink, appearing to read "Peter S. Lamm".

For the National Voluntary Laboratory Accreditation Program

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**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**Cates Laboratories, Inc.**

1339 Motor Circle

Dallas, TX 75207

Mr. John R. Cates

Phone: 214-920-5006 Fax: 1-972-767-0167

Email: [jrcates@cateslab.com](mailto:jrcates@cateslab.com)

<http://www.cateslab.com>

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 200569-0**

**Bulk Asbestos Analysis**

**Code**

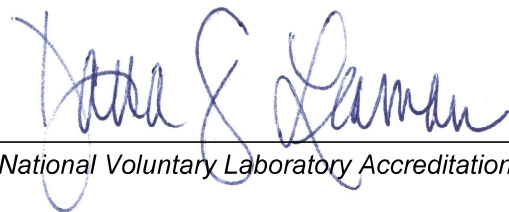
**Description**

18/A01

EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

18/A03

EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials



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*For the National Voluntary Laboratory Accreditation Program*