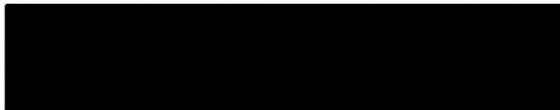


CHEROKEE NATION
Environmental Programs



Asbestos Sampling Report



PREPARED BY: Logan Girty **DATE:** 11/14/2025
LOGAN GIRTY, ENVIRONMENTAL SPECIALIST

REQUESTED BY: HACN HOUSING REHABILITATION –
JAMIE WALTERS

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I. Site Inspection/Description

Cherokee Nation Environmental Programs (CNEP) has conducted asbestos sampling for the presence of asbestos containing materials (ACM) for the following site:


21803 S 486 Rd, Tahlequah, OK 74464
918-570-6009
Coordinates: 35.8571 / -95.0251

The sampling was performed to determine the presence of all ACM from within the affected parts of the structure for EPA's National Emissions of Hazardous Air Pollutants (NESHAP) compliance as well as OSHA worker protection.

The inspector responsible for this project was:

Logan Girty, AHERA Inspector

The sampling was conducted on October 31, 2025 at the request of the Cherokee Nation Housing Rehabilitation Department.

The site is a single family home built in 1978. Sampling was limited to areas that would be affected by the project scope of work (Appendix A) provided by the housing rehabilitation department.

ACM was found at this site. See Section IV for locations.

II. BACKGROUND

The Oklahoma Department of Environmental Quality (ODEQ) has adopted EPA's NESHAP regulation under OAC252:100, 41-15 and has been delegated authority in the state of Oklahoma for its enforcement. Section 61.145(a) of Federal EPA regulation states that prior to commencement of the demolition or renovation of a facility a thorough inspection of the affected part or parts of a facility is required to determine the presence of all asbestos including Category I and Category II non-friable, and friable ACM. ACM is defined by EPA and OSHA as any material that contains greater than 1% asbestos.

III. FIELD PROCEDURES AND ANALYTICAL METHODS

During the on-site inspection, we visually assessed the physical characteristics of suspect asbestos-containing materials (SACM) based on homogeneous areas. Homogeneous areas are areas of asbestos similar in color, texture, and construction, date of application, and in general

appearance. For purposes of renovation and demolition, homogeneous areas of SACM can be further classified according to NESHAPs rules by whether the material is friable, Category I non-friable, or Category II non-friable.

Friable ACM is defined by NESHAPs rules as any material containing more than 1% asbestos as determined by Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.

Category I Non-friable ACM is defined by NESHAPs rules as any asbestos-containing packings, gaskets, construction mastics, resilient floor covering (i.e. floor tiles, roll sheet flooring) or asphalt roofing products that contain more than 1% asbestos as determined by PLM.

Category II Non-friable ACM is defined by NESHAPs rules as any material, excluding Category I non-friable ACM, containing more than 1% asbestos as determined by PLM, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Typically, non-friable materials, such as transite (cementitious products) and vinyl floor tiles are not regulated by the State of Oklahoma provided they do not become friable. General deterioration, machine grinding, drilling, sanding, and dry-buffing are all ways of causing non-friable materials to become classified as Regulated Asbestos Containing Materials (RACM). All friable materials are classified RACM. Please note that the following materials, even though classified as non-friable are fully regulated by Oklahoma Department of Labor for removal purposes as friable material: ceiling tiles, roll sheet flooring (linoleum), and joint wall compound when deemed friable

In addition to classification of suspect material into friable and non-friable materials, a determination of current condition was conducted as part of the physical assessment. The condition noted is the representative of the material at the time of inspection. Conditions of materials can change very quickly when disturbed. All suspect material was placed in one of the following categories of condition.

Significantly damaged: Material that is damaged, blistered, deteriorated, water stained over at least 10% of its total area.

Damaged: Material that is damaged, blistered, deteriorated, water stained less than 10% of its total area.

Good: Material that has no visible damage or deterioration.

Guidelines used for the number of samples collected per homogeneous area were determined using the Asbestos Hazard Emergency Response Act (AHERA) protocol promulgated in 40 CFR 763, Appendix E as follows:

Surfacing materials – material that is sprayed or troweled on wall, ceilings, or support columns for fireproofing, acoustical, or even decorative purpose.

- Less than 1000 ft² – Minimum 3 samples
- From 1000-5000 ft² – Minimum 5 samples
- Greater than 5000 ft² – Minimum 7 samples

Thermal System Insulation (TSI) materials – thermal system insulation material applied to tanks, boiler, pipes or other structural component for an insulating purpose.

- May omit areas of fibrous glass, foam glass, rubber, and Styrofoam from sampling. Areas that have mastic on seams or outer jacketing will be sampled.
- At least three samples must be collected from each homogeneous area of TSI.
- Plus an additional sample from each patched area of less than 6 linear feet.
- Fittings require a sufficient amount to determine positive or negative nature.
- Inspector will first collect samples from damaged areas, exposed ends, or areas missing jacketing first.

Miscellaneous materials – all other material that are not thermal system insulation or surfacing materials. This includes gaskets, packings, joint wall compound, cementitious asbestos materials, ceiling tiles resilient flooring materials, construction mastics, etc..

- May assume and document as such
- A sufficient amount of samples to determine negative or positive nature. A minimum or one per suspect homogeneous area.
- Collect samples from inconspicuous locations.
- Material such as cementitious asbestos or vibration dampening cloths should not be sampled and will be assumed ACM unless instructed by client to collect these samples.

Bulk samples of suspect ACM were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA Methods 600R-93/116. All samples were sent to a NVLAP accredited laboratory for analysis. QuanTEM Laboratories, LLC (NVLAP # 101959-0) in Oklahoma City, OK analyzed the samples. A copy of the full laboratory report and chain of custody can be found in Appendix B.

IV. SUMMARY OF FINDINGS

A total of 16 samples were analyzed from 6 homogeneous area due to multi-layers of material within some homogeneous sample areas. All accessible and observable areas within the renovation area were sampled for ACM. Samples were not taken of suspect materials that may have placed the inspector at risk of injury (i.e. electrical panel boxes). Any suspect ACM that have not been tested and/or found positive for asbestos must be assumed ACM until they are analyzed. Upon review of laboratory analysis, the following asbestos containing materials can be found in Table 1. All suspect ACM samples that were analyzed and did not contain asbestos can be found in Table 2.

Table 1. Asbestos Containing Materials

| Sample # | Material Description | Locations | Friability (Friable, NF Cat I NF Cat II) | Condition | Sample Results (% Asbestos) |
|----------|------------------------|-----------|---|-----------|-----------------------------|
| 04-01 | Roll Sheet Vinyl Floor | Bath 2 | NF Cat I | Damaged | 15% Chrysotile |
| | | | | | |
| | | | | | |

Table 2. Non – Asbestos Containing Materials

| Sample # | Material Description | Locations | Condition | Sample Results (% Asbestos) |
|-------------------------|-------------------------|-----------|-----------|-----------------------------|
| 01-01 01-02 01-03 | Popcorn Ceiling Texture | Bath 1&2 | Damaged | Asbestos Not Present |
| 02-01 | Roll Sheet Vinyl Floor | Bath 1 | Damaged | Asbestos Not Present |
| 03-01 | Roll Sheet Vinyl Floor | Kitchen | Damaged | Asbestos Not Present |
| 05-01 05-02 05-03 | Drywall Texture | Bath 1 | Damaged | Asbestos Not Present |
| 06-01 | Shingle | Roof | Damaged | Asbestos Not Present |
| | | | | |
| | | | | |

V. CONCLUSIONS

Asbestos is not always an immediate hazard. Intact and undisturbed ACM does not pose a health risk. They may, however become a health hazard if they are damaged, disturbed, or deteriorate over time and release fibers into the air. There are no federal, state, or Tribal laws mandating asbestos removal. It is only when the material can no longer be maintained in good condition and/or airborne concentrations of asbestos are measured and found to be above a permissible exposure limit (PEL), or when the building is to be demolished or renovated, that removal may become necessary. Any renovation/demolition work which may impact these positive materials should be conducted in accordance with all applicable Federal, state, and local regulations.



7021 W. Wilshire Blvd, Ste. B / Oklahoma City, OK 73132 / 405-755-7272

Polarized Light Microscopy Asbestos Analysis Report

Quantem Lab No. 384517

Account Number: C162

Date Received: 11/04/2025

Received By: Charlie Johnson

Date Analyzed: 11/05/2025

Analyzed By: Cassie Sanborn

Methodology: EPA/600/R-93/116

Client: Cherokee Nation Environmental Programs

Logan Girty

PO Box 948

Tahlequah, OK 74464

Project Location: Tahlequah

Project Number: NA

| Quantem Sample ID | Client Sample ID | Composition | Color / Description | Asbestos (%) | Non-Asbestos Fiber (%) | Non Fibrous |
|-------------------|------------------|-------------|-----------------------|----------------------|-------------------------------|------------------------------|
| 001 | 01-01 | Homogeneous | White Ceiling Texture | Asbestos Not Present | Cellulose 5 | CaCO ₃ Foam Paint |
| 002 | 01-02 | Homogeneous | White Ceiling Texture | Asbestos Not Present | Cellulose 5 | CaCO ₃ Foam Paint |
| 003 | 01-03 | Homogeneous | White Ceiling Texture | Asbestos Not Present | Cellulose 5 | CaCO ₃ Foam Paint |
| 004 | 02-01 | Layered | White Sheet Vinyl | Asbestos Not Present | Cellulose 10 Glass Fiber 5 | CaCO ₃ Vinyl |
| 004a | | Layered | Yellow Mastic | Asbestos Not Present | NA | Glue |
| 005 | 03-01 | Homogeneous | Yellow Sheet Vinyl | Asbestos Not Present | NA | CaCO ₃ Foam Vinyl |

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis. Quantem is a NVLAP accredited Testing PLM laboratory (Lab Code: 101959-0). This report relates only to the specific items tested. NVLAP accreditation applies only to analysis performed utilizing EPA—40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; and EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials. This report may not be used to claim product endorsement by NVLAP or any agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory. If submitted samples are inhomogeneous in nature, then subsamples of the components will be analyzed separately. Samples determined to contain asbestos fibers, will have the following acceptable error ranges (1% = 0-3%, 5% = 1-9%, 10% = 5-15%, 20% = 10-30%, 50% = 40-60%, etc.) as specified per EPA Method 600/R-93/116, Table 2-1.



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Methodology: EPA/600/R-93/116

Client: Cherokee Nation Environmental Programs

Logan Girty

PO Box 948

Tahlequah, OK 74464

Project Location: Tahlequah

Project Number: NA

| Quantem Sample ID | Client Sample ID | Composition | Color / Description | Asbestos (%) | Non-Asbestos Fiber (%) | Non Fibrous |
|-------------------|------------------|-------------|----------------------|-----------------------------------|------------------------|-------------|
| 006 | 04-01 | Homogeneous | Tan Sheet Vinyl | Asbestos Present Chrysotile 15 | Cellulose 5 | CaCO3 Vinyl |
| 007 | 05-01 | Layered | White Texture | Asbestos Not Present | NA | CaCO3 Paint |
| 007a | | Layered | White Drywall | Asbestos Not Present | Cellulose 10 | Gypsum |
| 008 | 05-02 | Layered | White Texture | Asbestos Not Present | NA | CaCO3 Paint |
| 008a | | Layered | White Drywall | Asbestos Not Present | Cellulose 10 | Gypsum |
| 009 | 05-03 | Layered | White Texture | Asbestos Not Present | NA | CaCO3 Paint |
| 009a | | Layered | White Joint Compound | Asbestos Not Present | NA | CaCO3 |

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Polarized Light Microscopy Asbestos Analysis Report

Quantem Lab No. 384517

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Date Received: 11/04/2025

Received By: Charlie Johnson

Date Analyzed: 11/05/2025

Analyzed By: Cassie Sanborn

Methodology: EPA/600/R-93/116

Client: Cherokee Nation Environmental Programs

Logan Girty

PO Box 948

Tahlequah, OK 74464

Project Location: Tahlequah

Project Number: NA

| Quantem Sample ID | Client Sample ID | Composition | Color / Description | Asbestos (%) | Non-Asbestos Fiber (%) | Non Fibrous |
|-------------------|------------------|-------------|---------------------|----------------------|------------------------|----------------------------|
| 009b | | Layered | White Drywall | Asbestos Not Present | Cellulose 10 | Gypsum |
| 010 | 06-01 | Layered | Brown Shingle | Asbestos Not Present | Glass Fiber 20 | Tar Sand CaCO ₃ |
| 010a | | Layered | Black Tar | Asbestos Not Present | NA | Tar |

Cassie Sanborn

Cassie Sanborn, Laboratory Analyst

11/5/2025

Date of Report

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis. Quantem is a NVLAP accredited Testing PLM laboratory (Lab Code: 101959-0). This report relates only to the specific items tested. NVLAP accreditation applies only to analysis performed utilizing EPA—40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; and EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials. This report may not be used to claim product endorsement by NVLAP or any agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory. If submitted samples are inhomogeneous in nature, then subsamples of the components will be analyzed separately. Samples determined to contain asbestos fibers, will have the following acceptable error ranges (1% = 0-3%, 5% = 1-9%, 10% = 5-15%, 20% = 10-30%, 50% = 40-60%, etc.) as specified per EPA Method 600/R-93/116, Table 2-1.



ASBESTOS CHAIN OF CUSTODY

7021 W Wilshire Blvd., Suite B, Oklahoma City, OK 73132
(800) 822-1650 • (405) 755-7272

LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

Page 1 of 1

| | |
|-----------------------|--|
| For Lab Use Only | |
| Lab No. <u>394517</u> | Accept <input checked="" type="checkbox"/> Reject <input type="checkbox"/> |

| | |
|---|---|
| Report Results (<input checked="" type="checkbox"/> one box) | |
| <input type="checkbox"/> Quantem Website | <input checked="" type="checkbox"/> Email <u>logan-girty@cherokee.org</u> |
| <input type="checkbox"/> Other | |

| | | | |
|---|---|-----------------------------|--|
| Contact Information | | Project Information | |
| Company: Cherokee Nation Environmental Programs | Phone: (918) 453-6140 | [Redacted] | |
| Contact: Logan Girty | Cell Phone: (918) 772-8346 | Project Location: Tahlequah | |
| Account #: C 162 | E-mail: <u>logan-girty@cherokee.org</u> | Project ID: | |
| SAMPLED BY: Name: Logan Girty | Date: 10/31/2025 | P.O. Number: 916621 | |

| | | | | |
|-----------------------|-----------------|-------|--------------------|-------------|
| RELINQUISHED BY | DATE & TIME | VIA | RECEIVED BY | DATE & TIME |
| <u>Logan E. Girty</u> | 11/3/2025 @ 9AM | FedEx | <u>[Signature]</u> | 11/4/25 930 |

| REQUESTED SERVICES (Please <input checked="" type="checkbox"/> the Appropriate Boxes) | | | | | |
|---|--|--|--|---|--|
| PLM | | PLM | | TEM | |
| <input checked="" type="checkbox"/> Bulk Analysis ** | <input type="checkbox"/> Vermiculite Attic Insulation (EPA 600/R-04/004) | <input type="checkbox"/> Air- AHERA | <input type="checkbox"/> Bulk- Presence / Absence EPA600/R-93/116 | TURNAROUND TIME | |
| <input type="checkbox"/> 400 Point Count | <input type="checkbox"/> Other | <input type="checkbox"/> Air- NIOSH 7402 | <input type="checkbox"/> Bulk- Quantitative [weight%]- Chatfield | <input type="checkbox"/> Rush | |
| <input type="checkbox"/> 1000 Point Count | | <input type="checkbox"/> Air- ISO 10312 | <input type="checkbox"/> Dust- Presence / Absence | <input type="checkbox"/> Same Day | |
| <input type="checkbox"/> Gravimetric Preparation | PCM | <input type="checkbox"/> Drinking Water- EPA 100.2 | <input type="checkbox"/> Dust- Quantitative [fibers/sq.cm]- ASTM D5755 | <input checked="" type="checkbox"/> 24 - Hour | |
| <input type="checkbox"/> Particle ID | <input type="checkbox"/> NIOSH 7400 | <input type="checkbox"/> Waste Water- EPA 600/4-83-043 | <input type="checkbox"/> Other | <input type="checkbox"/> 3 - Day | |
| | | | | <input type="checkbox"/> 5 - Day | |

| No. | Sample ID (10 Characters Max) | To Be Analyzed | Color | Description | Volume / Area (as applicable) | Comments / Notes |
|-----|----------------------------------|-------------------------------------|--------------|---------------------------|----------------------------------|------------------|
| 1 | 01-01 | <input checked="" type="checkbox"/> | White | Popcorn Ceiling Texture | | Bath 1 & 2 |
| 2 | 01-02 | <input checked="" type="checkbox"/> | White | Popcorn Ceiling Texture | | Bath 1 & 2 |
| 3 | 01-03 | <input checked="" type="checkbox"/> | White | Popcorn Ceiling Texture | | Bath 1 & 2 |
| 4 | 02-01 | <input checked="" type="checkbox"/> | White/Specks | Roll Sheet Vinyl Flooring | | Bath 1 |
| 5 | 03-01 | <input checked="" type="checkbox"/> | Yellow | Roll Sheet Vinyl Flooring | | Kitchen |
| 6 | 04-01 | <input checked="" type="checkbox"/> | Tan/Brown | Roll Sheet Vinyl Flooring | | Bath 2 |
| 7 | 05-01 | <input checked="" type="checkbox"/> | Blue | Drywall Texture | | Bath 1 |
| 8 | 05-06-01-012 | <input checked="" type="checkbox"/> | Black/Brown | Shingle | | Roof |
| 9 | 05-03 | <input type="checkbox"/> | | | | |
| 10 | 05-06-01 | <input type="checkbox"/> | | | | |

SATURDAY FEDEX SAMPLE DELIVERY - CALL TO SCHEDULE • Use this address for Saturday Delivery only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517 • Mark Package "Hold for Saturday Pickup" Please Note - UPS and USPS are NOT available for Saturday **PLM Bulk Analysis (EPA 40-CFR Appendix E to Subpart E of Part 763 and EPA 600/R-93/116 Methods)