

CHEROKEE NATION
Environmental Programs



Asbestos Sampling Report

unit #11360

PREPARED BY: Tyler Moore DATE: 7/26/2024

TYLER MOORE, ENVIRONMENTAL SPECIALIST I

REQUESTED BY: Housing Authority of the Cherokee Nation

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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:

Unit #11360
479-221-5134
112439 S. 4723 Rd.
Muldrow, OK 74948
Coordinates: 53.38451, 94.61448

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:

Tyler Moore EPA AHERA Inspector

The sampling was conducted on July 16th, 2024, at the request of the Housing Authority of the Cherokee Nation.

The site is a single-family residential structure built in 1980. Sampling was limited to areas that would be affected by the project scope of work (Appendix A) provided by the Housing Authority of the Cherokee Nation.

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 NESHAP's 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 of 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 8 samples were analyzed from 4 homogeneous areas 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 has 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)
01-01 Thru 01-05	White and Tan Texture	Ceiling Throughout	Friable	Damaged	2% Chrysotile

Table 2. Non – Asbestos Containing Materials

Sample #	Material Description	Locations	Condition	Sample Results (% Asbestos)
02-01	Mortar	Foundation	Damaged	None
03-01	Tan Vinyl Flooring	Laundry Room	Damaged	None
04-01	Brown Vinyl Flooring	Laundry Room	Damaged	None

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.



2033 HERITAGE PARK DR, OKLAHOMA CITY, OK 73120 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

Quantem Lab No. 370898

Account Number: C162

Date Received: 07/18/2024

Received By: Baylie Longstreth

Date Analyzed: 07/19/2024

Analyzed By: Tanner Smith

Methodology: EPA/600/R-93/116

Client: Cherokee Nation Environmental Programs
Tyler Moore

Unit #11300
Project Location: Muldrow, OK
Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
001	01-01	Layered	White Texture	Asbestos Not Present	NA	CaCO3
001a		Layered	White Drywall	Asbestos Not Present	Cellulose 10	Gypsum
002	01-02	Layered	White Texture	Asbestos Not Present	NA	CaCO3 Foam Paint
002a		Layered	Tan Texture	Asbestos Present Chrysotile 2	NA	CaCO3
003	01-03	Layered	White Texture	Asbestos Not Present	NA	CaCO3 Foam Paint
003a		Layered	Tan Texture	Asbestos Present Chrysotile 2	NA	CaCO3
003b		Layered	White Drywall	Asbestos Not Present	Cellulose 10	Gypsum

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 and EPA/600/R-93/116 methods.

This report may not be used to claim product endorsement by NVLAP or any agency of the US Government.

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Date Analyzed: 07/19/2024

Analyzed By: Tanner Smith

Methodology: EPA/600/R-93/116

Client: Cherokee Nation Environmental Programs
Tyler Moore

Unit #11360

Project Location: Muldrow, OK

Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
004	01-04	Homogeneous	White Texture	Asbestos Not Present	NA	CaCO3 Paint
005	01-05	Homogeneous	White Texture	Asbestos Not Present	NA	CaCO3 Paint
006	02-01	Homogeneous	Gray Concrete	Asbestos Not Present	NA	CaCO3 Sand Gravel
007	03-01	Layered	Tan Flooring	Asbestos Not Present	Cellulose 20	Vinyl
007a		Layered	Tan Mastic	Asbestos Not Present	NA	Glue
008	04-01	Layered	Brown Flooring	Asbestos Not Present	Cellulose 20	Vinyl

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Quantem Lab No. 370898

Account Number: C162

Client: Cherokee Nation Environmental Programs
Tyler Moore

Date Received: 07/18/2024

Received By: Baylie Longstreth

Date Analyzed: 07/19/2024

Analyzed By: Tanner Smith

Methodology: EPA/600/R-93/116

unit # 11360

Project Location: Muldrow, OK

Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
008a		Layered	Tan Mastic	Asbestos Not Present	NA	Glue

Tanner Smith, Laboratory Analyst

7/19/2024

Date of Report

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

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ASBESTOS CHAIN OF CUSTODY

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502
(800) 822-1650 • (405) 755-7272 • Fax: (405) 755-2058

LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

Contact Information		Project Information	
Company:	Cherokee Nation Environmental Programs	Project Name:	Unit #11360
Contact:	Tyler Moore	Project Location:	- Muldrow, OK
Account #:	C 162	Project ID:	
SAMPLED BY:	Name: Tyler Moore	P.O. Number:	874812
Date:	7/17/24		

RELINQUISHED BY	VIA	RECEIVED BY	DATE & TIME
	FedEx		7/18/24 9:20

REQUESTED SERVICES (Please check the appropriate boxes)			
PLM	PLM	TEM	TEM
<input checked="" type="checkbox"/> Bulk Analysis (EPA 600/R-93/116)	<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
<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"/> 1000 Point Count		<input type="checkbox"/> Air- ISO 10312	<input type="checkbox"/> Dust- Presence / Absence
<input type="checkbox"/> Gravimetric Preparation		<input type="checkbox"/> Drinking Water- EPA 100.2	<input type="checkbox"/> Dust- Quantitative [fibers/cc,cm]- ASTM D5755
<input type="checkbox"/> Particle ID		<input type="checkbox"/> Waste Water- EPA 600/4-83-043	<input type="checkbox"/> Other

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	Ceiling Texture		
2	01-02	<input checked="" type="checkbox"/>	White	Ceiling Texture		
3	01-03	<input checked="" type="checkbox"/>	White	Ceiling Texture		
4	01-04	<input checked="" type="checkbox"/>	White	Ceiling Texture		
5	01-05	<input checked="" type="checkbox"/>	White	Ceiling Texture		
6	02-01	<input checked="" type="checkbox"/>	Grey	Foundation Concrete		
7	03-01	<input checked="" type="checkbox"/>	Tan	Vinyl Floor Laundry		
8	04-01	<input checked="" type="checkbox"/>	Brown	Vinyl Floor Laundry		
9		<input type="checkbox"/>				
10		<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 Delivery

For Lab Use Only
Lab No. 370898
Accept <input checked="" type="checkbox"/> Reject <input type="checkbox"/>

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