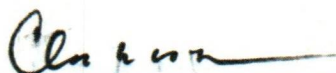


CHEROKEE NATION
Environmental Programs



Asbestos Sampling Report

PARTICIPANT: Pair, Eddie

PREPARED BY:  **DATE:** 10.23.23
CHRISTOPHER COCHRAN ENVIRONMENTAL TECHNICIAN

REQUESTED BY: CHEROKEE NATION HOUSING REHABILITATION (HUD) -
GEORGE HUBBARD

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:

Site Name: Eddie Pair
Address: 9877 US Hwy 412 Twin Oaks, OK 74368
Phone 918-226-1461
Lat/Long N36.20493, W094.84637

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: Christopher Cochran ODOL, AHERA Inspector, License No: 401244

The sampling was conducted on October 10th, 2023 at the request of the Cherokee Nation Housing Rehabilitation Department.

The site is a single family home built in 1960. Sampling was limited to areas that would be affected by the project scope of work (Appendix A) provided by the rehabilitation department.

ACM was found at the last visit to the home.

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 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 (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 28 samples were analyzed from 8 homogeneous area due to multi-layers of material within some homogeneous sample areas. Photographs of all ACM can be found in Appendix C. 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)
07-01	White Siding	Exterior	NF Cat II	Damaged	15% Chrysotile

Table 2. Non - Asbestos Containing Materials

Sample #	Material Description	Locations	Condition	Sample Results (% Asbestos)
01-01 01-02 01-03	White Ceiling Texture/Joint Wall Compound	Living Room	Damaged	Not Present
02-01 02-02 02-03	White Ceiling Texture/Joint Wall Compound	Kitchen	Damaged	Not Present
03-01 03-02 03-03	White Ceiling Texture/Joint Wall Compound	Bed Room	Damaged	Not Present
04-01	Brown Vinyl Floor Tile/Mastic	Kitchen	Damaged	Not Present
05-01	Tan Vinyl Floor Tile/Mastic	Bath Room	Damaged	Not Present
06-01	White Dry Wall	Through Out	Damaged	Not Present
08-01	Gray Shingle	Roof	Damaged	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.



2033 HERITAGE PARK DR, OKLAHOMA CITY, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

Quantem Lab No. 362941

Account Number: C162

Date Received: 10/05/2023

Received By: Baylie Longstreth

Date Analyzed: 10/06/2023

Analyzed By: Benjamin Hill

Methodology: EPA/600/R-93/116

Client: Cherokee Nation Environmental Programs
Chris Cochran
PO Box 948
Tahlequah, OK 74464

Project: Eddie Pair

Project Location: Twin Oaks

Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
001	01-01	Layered	White Ceiling Texture	Asbestos Not Present	Wollastonite	3 CaCO3
001a		Layered	Tan Sheetrock	Asbestos Not Present	Cellulose Glass Fiber	10 2 Gypsum
002	01-02	Layered	White Ceiling Texture	Asbestos Not Present	Cellulose	3 CaCO3 Paint
002a		Layered	White Joint Compound	Asbestos Not Present	NA	CaCO3
002b		Layered	Tan Sheetrock	Asbestos Not Present	Cellulose Glass Fiber	10 2 Gypsum
003	01-03	Layered	White Ceiling Texture	Asbestos Not Present	Cellulose	3 CaCO3 Paint
003a		Layered	Tan Sheetrock	Asbestos Not Present	Cellulose Glass Fiber	10 2 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. This report may not be reproduced except in full, without the written approval of the laboratory.



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PO Box 948
Tahlequah, OK 74464

Project: Eddie Pair

Project Location: Twin Oaks

Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
004	02-01	Layered	White Ceiling Texture	Asbestos Not Present	NA	Paint
004a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
005	02-02	Layered	White Ceiling Texture	Asbestos Not Present	NA	Paint
005a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
006	02-03	Layered	White Ceiling Texture	Asbestos Not Present	NA	Paint
006a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum

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Polarized Light Microscopy Asbestos Analysis Report

Quantem Lab No. 362941	Client: Cherokee Nation Environmental Programs
Account Number: C162	Chris Cochran
Date Received: 10/05/2023	PO Box 948
Received By: Baylie Longstreth	Tahlequah, OK 74464
Date Analyzed: 10/06/2023	Project: Eddie Pair
Analyzed By: Benjamin Hill	Project Location: Twin Oaks
Methodology: EPA/600/R-93/116	Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
007	03-01	Layered	White Ceiling Texture	Asbestos Not Present	NA	Paint
007a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
008	03-02	Layered	White Ceiling Texture	Asbestos Not Present	NA	Paint
008a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
009	03-03	Layered	White Ceiling Texture	Asbestos Not Present	NA	Paint
009a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
010	04-01	Layered	Brown Floor Tile	Asbestos Not Present	Synthetic 3	CaCO3 Vinyl

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Received By: Baylie Longstreth

Date Analyzed: 10/06/2023

Analyzed By: Benjamin Hill

Methodology: EPA/600/R-93/116

Client: Cherokee Nation Environmental Programs
Chris Cochran
PO Box 948
Tahlequah, OK 74464

Project: Eddie Pair

Project Location: Twin Oaks

Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
010a		Layered	Yellow Mastic	Asbestos Not Present	NA	Glue
011	05-01	Layered	Tan Floor Tile	Asbestos Not Present	Synthetic	3 CaCO3 Vinyl
011a		Layered	Yellow Mastic	Asbestos Not Present	NA	Glue
012	06-01	Layered	Tan Texture	Asbestos Not Present	NA	Paint
012a		Layered	White Sheetrock	Asbestos Not Present	Cellulose	10 Gypsum
013	07-01	Homogeneous	White/Gray Siding	Asbestos Present Chrysotile 15	NA	CaCO3 Sand

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Polarized Light Microscopy Asbestos Analysis Report

Quantem Lab No. 362941	Client: Cherokee Nation Environmental Programs
Account Number: C162	Chris Cochran
Date Received: 10/05/2023	PO Box 948
Received By: Baylie Longstreth	Tahlequah, OK 74464
Date Analyzed: 10/06/2023	Project: Eddie Pair
Analyzed By: Benjamin Hill	Project Location: Twin Oaks
Methodology: EPA/600/R-93/116	Project Number: N/A

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
014	08-01	Homogeneous	Gray Shingle	Asbestos Not Present	Cellulose 40	Tar Sand

Benjamin Hill

Benjamin Hill, Assistant Laboratory Manager

10/6/2023

Date of Report

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LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

Contact Information		Project Information	
Company: Cherokee Nation	Phone: (918) 453-5009	Project Name: Eddie Pair	
Contact: Christopher Cochran	Cell Phone: (918) 316-7452	Project Location: Twin Oaks	
Account #: C162	E-mail: Christopher-cochran@cherokee.org	Project ID:	
SAMPLED BY: Name: Christopher Cochran	Date: 10/03/2023	P.O. Number: 289369	

RELINQUISHED BY Chris Cochran	DATE & TIME 10/04/2023	VIA Fedex	RECEIVED BY <i>[Signature]</i>	DATE & TIME 10/5/23 9:15
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No.	Sample ID (10 Characters Max)	To Be Analyzed	Color	Description	Volume / Area (as applicable)	Comments / Notes	PLM		TEM		TURNAROUND TIME	
							Bulk Analysis (EPA 600/R-93/116)	400 Point Count	Bulk Presence / Absence EPA600/R-93/116	Bulk- Quantitative [weight%]- Chatfield	Rush	Same Day
1	01-01-01-03	<input checked="" type="checkbox"/>	White	Ceiling Texture/Joint Wall Compound	Living Room		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	02-01-02-03	<input checked="" type="checkbox"/>	White	Ceiling Texture/Joint Wall Compound	Kitchen		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	03-01-03-03	<input checked="" type="checkbox"/>	White	Ceiling Texture/Joint Wall Compound	Bed Room		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	04-01	<input checked="" type="checkbox"/>	Brown	Vinyl Floor Tile /Mastic	Kitchen		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	05-01	<input checked="" type="checkbox"/>	Tan	Vinyl Floor Tile /Mastic	Bath Room		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	06-01	<input checked="" type="checkbox"/>	White	Dry Wall	Through Out		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	07-01	<input checked="" type="checkbox"/>	White	Siding	Exterior		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	08-01	<input checked="" type="checkbox"/>	Gray	Shingle	Roof		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Please Note - UPS and USPS are NOT available for Saturday Delivery

For Lab Use Only

Lab No. 362941

Report Results (one box)

Quantem Website

Email Christopher-cochran@cherokee.org

Other _____

Accept Reflect