Lead-Based Paint Risk Assessment Report

For the Dwelling Located at:
Aaron Palmer
201 N. Main St.
Muldrow, OK 74948
(918) 427-1072
CNH Rehab.
Built: 1956
N 35.41140 W 94.59940

Prepared For:

Cherokee Nation Housing Rehab
Using ODEQ, EPA and CN Work Practice Standards
Established in 40 CFR 745-227

Lab Analysis by
EMSL Analytical Inc.
3029 S. Jefferson
Saint Louis, MO 63118
(314) 577-0150 Fax (314) 776-3313

By:
Jeremy J. Freise, Certified Risk Assessor
Expiration: March 31, 2012
P.O. Box 948
Tahlequah, OK 74465
(918) 453-5009
Niton XLp300A Serial # 26524

OK Risk Assessor OKRASR13522
OK Firm OKFIRM11198
CN Firm CNFIRM00001
CN Risk Assessor CNRASR00029

Date: 12-27-2011

Signature: Jeremy J Freise

Table of Contents

Part 1: Identifying Information

Aaron Palmer
201 N. Main St.
Muldrow, OK 74948
(918) 427-1072

Part II: Results

List of Location and Type of Identified Lead Hazards

- Interior A Side Cabinet Bathroom
- Exterior A Side Porch Header
- Exterior A Side Wall
- Exterior A Side Fascia
- Exterior A Side Rafter
- Exterior A Side Garage Door
- Exterior A Side Garage Door Header
- Exterior B Side Window Apron
- Exterior B Side Garage Door
- Exterior B Side Garage Door Casing
- Exterior D Side Wall
- Exterior D Side Door

A few other painted surfaces that have not been tested for lead are in "fair" condition and should be repainted within the next year before further deterioration occurs. However, these surfaces are not considered to be immediate "hazards," using criteria in the 1995 *HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing.* Those surfaces are:

There has not been any previous lead-based paint testing at this dwelling, although a lead-based paint inspection of all painted surfaces is recommended so that potential lead problems can be monitored before they become hazardous. Soil lead levels were all below 400ug/g. Current EPA and HUD Guidance for soil is 400ug/g for bare play areas and 1,200 ug/g for other areas. Using these criteria, soil is not a hazard at this property. The owner has decided to select the following hazard control measures, which are all acceptable based on HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*:

Reevaluation: Standard Reevaluation Schedule 3 contained in the HUD Guidelines applies to this property, since one of the rooms had a dust lead level greater that the standard. Therefore, the dwelling should be reevaluated in 12/27/2012 (12 months from now). If no lead-based paint hazards are identified at this time, no further reevaluations are needed. However, since lead-based paint may be present in the dwelling, the owner should monitor the condition of all painted surfaces at least annually or whenever other information indicates a potential problem

Resident Questionnaire

Children/Children's Habits

1. (a) Do you have any children that live in your home? Yes_____ No__X___
   (b) If yes, how many? _____ Ages? ____ ____ _____ _____
   (c) Record blood lead levels, if known_____ _____ _____ _____ _____ _____

IF NO CHILDREN, SKIP TO Q.5

2. Locate the rooms/areas where each child sleeps, eats, and plays.

Name of Child	Location of Bedroom	Location of All Rooms Where Child Eats	Primary Location Where Child Plays Indoors	Primary Location Where Child Plays Outdoors

3. Where are toys stored/kept?_____
4. Is there any visible evidence of chewed or peeling paint on the wood work, furniture, or toys? Yes_____ No_____

Family Use Patterns

5. Which entrances are used most frequently? A Side Door
6. Which windows are opened most frequently? All Windows Excluding Picture Window in Summer
7. Do you use window air conditioners?If yes, where? _____ No__X___
   (*Condensation often causes paint deterioration)*
8. (a) Do any household member engage in gardening? Yes_____ No_____X
   (b) Record the location of any vegetable garden._____
   (c) Are you planning any landscaping activities that will remove grass or ground covering? Yes_____ No__X
9. (a) How often is the household cleaned? Bi-Weekly
   (b) What cleaning methods do you use? Soap/Water
10. (a) Did you recently complete any building renovations? Yes____ No__X__
    (b)If yes, where? _____
    (c) Was building debris stored in the yard? If yes, where?_____
11. Are you planning any building renovations? Where?_____ No_____X
12. (a) Do any household members work in a lead-related industry? Yes____ No__X
    (b) If yes, where are dirty work clothes placed and cleaned?_____

Building Condition Form

CONDITION	YES	NO
Roof Missing Parts of Surfaces (tiles, boards, etc.)		X
Roof Has Holes or Large Cracks		X
Gutter or Downspouts Broken		X
Chimney Masonry cracked, bricks loose or missing, obviously out of plumb		X
Exterior or interior walls have obvious large cracks or holes, requiring more than routine painting		X
Exterior siding has missing boards or shingles		X
Water stains on interior walls or ceilings		X
Plaster walls deteriorated		X
Two or more windows or doors broken, missing, or boarded up	X	
Porch or steps have major elements broken, missing, or boarded up	X	
Foundation has major cracks, missing material, structural leans, or visibly unsound		X
Total	2	9

If the "Yes" column has 2 or more checks, the dwelling is considered to be in poor condition for the purposes of a risk assessment. However, specific conditions and extenuating circumstances should be considered before determining final condition of the building and the appropriateness of a lead hazard screen.

Notes:

Overall, the home is in "poor" condition.

8. Dwelling Selection Process: N/A

9. Analysis of Previous XRF Testing Report: N/A

Field Sampling Form for Deteriorated Paint

Name of Risk Assessor Jeremy J. Freise
Name of Property Owner Aaron Palmer
Property Address 201 N. Main St. Muldrow, OK 74948
Sampling Protocol Single-Family
Target Dwelling Criteria (Check All That Apply)

____ Code Violations
__X__ Judged to be in Poor Condition
____ Presence of 2 or More Children between Ages of 6 Months and 6 Years
____ Serves as Day-Care Facility
____ Recently Prepared for Reoccupancy
____ Random Sampling
____ None of the above

XRF 12/14/2011

Sample Number	Room	Building Component	Laboratory Result (ug/g) or XRF Reading (mg/cm^2)
062 ABCD	Interior A	Cabinet Bathroom	1.0 +/- 0.2
065 ABCD	Exterior A	Porch Header	1.7 +/- 0.3
068 ABCD	Exterior A	Wall	4.5 +/- 0.6
069 ABCD	Exterior A	Fascia	3.8 +/- 0.7
070 ABCD	Exterior A	Rafter	1.9 +/- 0.4
071 ABCD	Exterior A	Garage Door	1.9 +/- 0.3
072 ABCD	Exterior A	Garage Door Header	1.7 +/- 0.5
076 ABCD	Exterior B	Window Apron	1.2 +/- 0.4
078 ABCD	Exterior B	Garage Door	1.5 +/- 0.3
079 ABCD	Exterior B	Garage Door Casing	2.6 +/- 0.5
084 ABCD	Exterior D	Wall	1.5 +/- 0.2
085 ABCD	Exterior D	Door	1.5 +/- 0.2
HUD Standard			5,000 ug/g or 1 mg/cm^2

Sample all layer of paint, not just deteriorated paint layers

Total Number of Samples This Page 12

Page 1 of 1

Date of Sample Collection 12/14/2011 Date shipped to lab 12/15/2011

Shipped by Jeremy J. Freise (signature) Received by EMSL Analytical, Inc. (signature)

Field Sampling Form For Dust
(Single Surface)

Sample Number	Room (Record Name of Room Used by the Owner or Resident)	Surface Type	Is Surface Smooth and Cleanable?	Dimension[1] of Sample Area (inches x inches)	Area (ft^2)	Result of Lab Analysis (ug/ft^2)
01	Living Room	Floor	Yes	12 x 12	144 in	<10 ug/ft
02	Living Room	W/S	Yes		78 in	2400 ug/ft
03	Bathroom	Floor	Yes	12 x 12	144 in	<10 ug/ft
04	Bedroom 2	W/S	Yes		78 in	28 ug/ft
05	Kitchen	Floor	Yes	12 x 12	144 in	<10 ug/ft
06	Bedroom 1	W/S	Yes		78 in	230 ug/ft
07	Dining Room	Floor	Yes	12 x 12	144 in	<10 ug/ft
08	Storage Room	W/S	Yes		24 in	170 ug/ft

[1] Measure to the nearest ⅛ inch

Total Number of Samples This Page 8

Page 1 of 1

Date of Sample Collection 12/14/2011 Date shipped to lab 12/15/2011

Shipped by Jeremy J. Freise (signature) Received by EMSL Analytical, Inc. (signature)

HUD Standards: 40 ug/ft^2 (floors),250 ug/ft^2 (interior window sills),400 ug/ft^2 (window troughs)

Field Sampling Form For Soil
(Composite Sampling Only)

Name of Risk Assessor Jeremy J. Freise

Name of Property Owner Aaron Palmer

Property Address 201 N. Main St. Muldrow, OK 74948

SAMPLE NO.	LOCATION	BARE OR COVERED	LAB RESULTS mg/Kg
09	Dripline	Covered	370 mg/Kg

Collect only the ½" of soil

Total Number of Samples This Page 1

Page 1 of 1

Date of Sample Collection 12/14/2011 Date Shipped to lab 12/15/2011

Shipped by Jeremy J. Freise (signature) Received by EMSL Analytical, Inc. (signature)

13. Other Sampling Results: N/A

Part III: Lead Hazard Control Options

14. Lead-Based Paint Policy Statement

On File CNEP and Cherokee Nation Housing Rehab

15. Name of Individual in Charge of Lead-Based Paint Hazard Control Program:

Cherokee Nation Housing Rehab (George Hubbard)

16. Recommended Changes to Work Order System and Property Management

The existing work order system is an informal verbal one. If painted surfaces will be disturbed during a particular repair job, the painted surface should be tested to determine if it has lead-based paint on it. If it does (or if testing is not completed), the maintenance worker should take the necessary precautions by wetting down the surface and performing cleanup. If the surface area is large or if the work will generate a significant amount of dust, clearance testing should be completed before residents move back into the room. The table below can be used as a general guide in determining whether maintenance jobs are likely to be high risk or low risk.

When work is assigned, the owner or worker should determine whether or not the job is low or high risk and adopt protective measures as needed.

Table 17.1 (Taken from HUD Guidelines

Summary of Low-and High-Risk Job Designations for Surfaces Known or Suspected to Have Lead-Based Paint

Job Description	Low Risk	High Risk
Repainting (includes surface Preparation)		√
Plastering or wall repair		√
Window repair		√
Water or moisture damage repair (repainting and plumbing)		√
Door repair	√	
Building component replacement		√
Welding on Painted Surfaces		√
Door lock repair or replacement	√	
Electrical fixture repair	√	
Floor refinishing		√
Carpet replacement		√
Groundskeeping	√	
Radiator leak repair	√	
Baluster repair (metal)		√
Demolition		√

High-risk jobs typically disturb more than 2 square feet per room. If these jobs disturb less than 2 square feet, then they can be considered low-risk jobs.

Table 17.2

	Low Risk	High Risk
Worksite preparation with plastic sheeting (6 mil thick)	Plastic sheet no less than 5 feet immediately underneath work area	Whole floor, plus simple airlock at door or tape door shut
Children kept out of work area	Yes	Yes
Resident relocation during work	No	Yes
Respirators	Probably not necessary*	Recommended
Protective clothing Note: Protective shoe coverings are not to be worn on ladders, scaffolds, etc.	Probably not necessary*	Recommended
Personal hygiene (enforced hand washing after job)	Required	Required
Showers	Probably not necessary	Recommended
Work practices	Use wet methods, except near electrical circuits	Use wet methods, except near electrical circuits
Cleaning	Wet cleaning with lead-specific detergent trisodium phosphate or other suitable detergent around the work area only (2 linear feet beyond plastic)	HEPA vacuum/wet wash/HEPA vacuum the entire work area
Clearance	Visual examination only	Dust sampling during the preliminary phase of the maintenance program and periodically thereafter (not required for every job)

- **Employers must have objective data showing that worker exposures are less than the OSHA Permissible Exposure Limit of 50ug/m3 if respirators and protective clothing will not be provided.**

17. Interim Control Options and Estimated Costs

The costs shown below include labor, materials, worker protection, site containment and cleanup. These are only very rough estimates that may not be accurate; a precise estimate should be obtained from a certified lead-based paint abatement contractor. I would be pleased to perform clearance testing after this work has been completed at your request.

Hazard A: Interior A Side Cabinet Bathroom:	Wet Scrape and Repaint
Hazard B: Exterior A Side Porch Header:	Wet Scrape and Repaint
Hazard C: Exterior A Side Wall:	Wet Scrape and Repaint
Hazard D: All Exterior Fascia:	Wet Scrape and Repaint
Hazard E: Exterior A Side Rafter:	Wet Scrape and Repaint
Hazard F: Exterior A Side Garage Door:	Wet Scrape and Repaint
Hazard G: Exterior A Side Garage Door Header:	Wet Scrape and Repaint
Hazard H: Exterior B Side Window Apron:	Wet Scrape and Repaint
Hazard I: Exterior B Side Garage Door:	Wet Scrape and Repaint
Hazard J: Exterior B Side Garage Door Casing:	Wet Scrape and Repaint
Hazard K: Exterior D Side Wall:	Wet Scrape and Repaint
Hazard L: Exterior D Side Door:	Wet Scrape and Repaint

18. Acceptable Abatement Options and Estimated Costs

Hazard A: Interior A Side Cabinet Bathroom:	Enclose or Replace
Hazard B: Exterior A Side Porch Header:	Enclose or Replace
Hazard C: Exterior A Side Wall:	Enclose or Replace
Hazard D: All Exterior Fascia:	Enclose or Replace
Hazard E: Exterior A Side Rafter:	Enclose or Replace
Hazard F: Exterior A Side Garage Door:	Enclose or Replace
Hazard G: Exterior A Side Garage Door Header:	Enclose or Replace
Hazard H: Exterior B Side Window Apron:	Enclose or Replace
Hazard I: Exterior B Side Garage Door:	Enclose or Replace
Hazard J: Exterior B Side Garage Door Casing:	Enclose or Replace
Hazard K: Exterior D Side Wall:	Enclose or Replace
Hazard L: Exterior D Side Door:	Enclose or Replace

19. Reevaluation and Monitoring Schedule

Each of these treatments will need to be reexamined periodically to make certain that they remain effective and to ensure that new lead-based paint hazards do not appear. The interim controls shown above are less expensive initially, but they may be more expensive in the long run since they need to be reevaluated more frequently. The replacement and paint removal methods are more expensive initially, but do not require any reevaluation.

The owner should monitor the condition of the paint at least annually or if there is some indication that paint might be failing. A professional reevaluation is also needed. The standard schedule for reevaluation the dwelling is shown above.

Reevaluation: Standard Reevaluation Schedule 3 contained in the HUD Guidelines applies to this property, since one of the rooms had a dust lead level greater than the standard. Therefore, the dwelling should be reevaluated in 12/27/2012 12 months from now). If no lead-based paint hazards are identified at that time, another reevaluation should be conducted in 12/27/2013 (2 years later). If no lead-based paint hazards are identified at that time, no further reevaluations are needed. However, since lead-based paint may be present in the dwelling, the owner should monitor the condition of all painted surfaces at least annually or whenever other information indicates a potential problem.

Part IV: Site Specific Lead Hazard Control Plan

20. Lead Hazard Control Option To Be Implemented in This Property

I recommend abatement options be implemented on all areas with Lead Based Paint.

21. Training Plan for Managers, Maintenance Supervisors and Workers

On File at Cherokee Nation Housing Rehab

22. Method of Resident Notification of Results of Risk Assessment and Lead Hazard Control Program

In Person by Cherokee Nation Housing Rehab

23. Signatures (Risk Assessor and Owner), Date and Certificate of Lead-Based Paint Compliance

Owner Signature — Date

Certified Risk Assessor Signature — 12-27-2011 Date

Certificate of Lead-Based Paint Compliance

I hereby certify that on_____the dwelling located at_____ meets the criteria established by the Department of Housing and Urban Development for lead safety. Either no lead-based paint hazards were identified or all lead-based paint hazards have been corrected.

_____

Owner

_____

Authorized Signature

Risk Assessor License # _____

Expiration Date:_____

Cherokee Nation
Environmental Programs

391109679 Soil

Lead & Metals Chain of Custody

EMSL Order Number (Lab Use Only):

EMSL
St. Louis, MO
3225-3229 S. Jefferson
St. Louis, MO 63118
PHONE (314) 577-0150
FAX (314) 776-3313

Company: Cherokee Nation Environmental Programs	EMSL-Bill to: ☐ Same ☑ Different If Bill to is Different note instructions in "Comments" *Third Party Billing requires written authorization from third party*
Street: 206 East Allen Road	
City/State/Zip: Tahlequah, OK 74464	
Report To (Name): Jeremy J. Freise	**Fax:** (918) 453 2904
Telephone: (918) 453-5094	**Email Address:** jeremy-freise@cherokee.org
Project Name/Number: Aaron Palmer	
Please Provide Results: Email	**Purchase Order:** 114068 — **State Samples Taken:** OK

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour | ☐ 6 Hour | ☐ 24 Hour | ☐ 48 Hour | ☒ 72 Hour | ☐ 96 Hour | ☐ 1 Week | ☐ 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips ☐ mg/cm² ☐ % by wt.	SW846-7000B/7420 or AOAC 974.02	Flame Atomic Absorption	0.01%	☐
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300 modified	ICP-AES	0.5 µg/filter	☐
Wipe* ☒ ASTM ☐ non ASTM *If no box is checked, non-ASTM Wipe is assumed	SW846-7000B/7420	Flame Atomic Absorption	10 µg/wipe	☒
	SW846-6010B or C	ICP-AES	0.5 µg/wipe	☐
TCLP	SW846-1311/7420/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	☒
	SW846-7421	Graphite Furnace AA	0.3 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-AES	1 mg/kg (ppm)	☐
Wastewater	SM3111B or SW846-7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	SW846-6010B or C	ICP-AES	1 mg/kg (ppm)	☐
Drinking Water	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐

Other:	**Preservation Method (Water):**
Name of Sampler:	**Signature of Sampler:**

Sample #	Location	Volume/Area	Date/Time Sampled
01	Living Room Floor	144 in²	12-14-11
02	Living Room W/S	78 in²	12-14-11
03	Bathroom Floor	144 in²	12-14-11
04	Bedroom 2 W/S	78 in²	12-14-11
05	Kitchen Floor	144 in²	12-14-11
06	Bedroom 1 W/S	78 in²	12-14-11

Client Sample #'s 01-09 — **Total # of Samples:** 9

Relinquished (Client):	Jeremy J. Freise	**Date:**	8:30 am 12/15/11	**Time:**	8:30 AM 12/15/11
Received (Lab):		**Date:**	12/19/11	**Time:**	1240 VS

Comments/Special Instructions:
Bill To: Cherokee Nation Environmental Programs, 206 East Allen Road, , Tahlequah, OK 74464
Attention: Ashley Wagnon **Phone:** (918) 453-5370 **Email:** ashley-wagnon@cherokee.org **Purchase Order:** 114068

391109679-Soil

Lead & Metals Chain of Custody
EMSL Order Number *(Lab Use Only)*:

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE (314)-577-0150
FAX (314)-776-3313

Sample #	Location	Volume/Area	Date/Time Sampled
07	Dining Room Floor	144 in^2	12-14-11
08	Storage Room w/s	24 in^2	12-14-11
09	Soil Dripline	50 mL	12-14-11

Comments/Special Instructions:

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeremy Freise**
Cherokee Nation Environmental Programs
206 East Allen Road
Tahlequah, OK 74464

Fax: Phone: (918) 453-5370
Project: **Aaron Palmer**

Customer ID: CHER25
Customer PO: 114068
Received: 12/19/11 12:40 PM
EMSL Order 391109678
EMSL Proj:

Test Report: Lead in Dust by Flame AAS (SW 846 3050B*/7000B)

Lab ID:	Analyzed	Area Sampled	RDL	Lead Concentration	Notes
0001	12/22/2011	144 in²	10 µg/ft²	<10 µg/ft²	
Client Sample 01					Collected:
0002	12/22/2011	78 in²	92 µg/ft²	2400 µg/ft²	
Client Sample 02					Collected:
0003	12/22/2011	144 in²	10 µg/ft²	<10 µg/ft²	
Client Sample 03					Collected:
0004	12/22/2011	78 in²	18 µg/ft²	28 µg/ft²	
Client Sample 04					Collected:
0005	12/22/2011	144 in²	10 µg/ft²	<10 µg/ft²	
Client Sample 05					Collected:
0006	12/22/2011	78 in²	18 µg/ft²	230 µg/ft²	
Client Sample 06					Collected:
0007	12/22/2011	144 in²	10 µg/ft²	<10 µg/ft²	
Client Sample 07					Collected:
0008	12/22/2011	24 in²	60 µg/ft²	170 µg/ft²	
Client Sample 08					Collected:

Initial report from 12/22/2011 13:36:58

Jeff Siria, Laboratory Manager
or other approved signatory

Reporting limit is 10 ug/wipe. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied. Samples received in good condition unless otherwise noted. Quality Control Data associated with this sample set is within acceptable limits unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Saint Louis, MO AIHA-LAP, LLC ELLAP 102636

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeremy Freise**
Cherokee Nation Environmental Programs
206 East Allen Road
Tahlequah, OK 74464

Fax: Phone: (918) 453-5370
Project: **Aaron Palmer**

Customer ID: CHER25
Customer PO: 114068
Received: 12/19/11 12:40 PM
EMSL Order: 391109679
EMSL Proj:

Test Report: Lead in Soils by Flame AAS (SW 846 3050B*/7000B)

Lab ID.	*Analyzed*	*RDL*	*Lead Concentration*	*Notes*
0001	12/21/2011	40 mg/Kg	370 mg/Kg	
Client Sample 09				*Collected:*

Initial report from 12/22/2011 13:39:17

Jeff Siria, Laboratory Manager
or other approved signatory

Reporting limit is 40 mg/kg. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied. Samples received in good condition unless otherwise noted. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Saint Louis, MO AIHA-LAP, LLC ELLAP 102636