MATRIX
Health & Safety Consultants, L.L.C.

July 18, 2024

Tyler Patterson
1269 Manns Chapel Road
Pittsboro NC 27312

Subject: Heavy Metals Dust Wipe Sampling
118 Bynum Hill
Pittsboro, NC
Matrix Project Number: 240721

Dear Mr. Patterson:

Matrix Health and Safety Consultants, L.L.C. (Matrix) is pleased to present this report on the survey to identify heavy metals in dust/soil at the referenced property. This report presents known project information, survey procedures and survey results.

PROJECT INFORMATION

Matrix Health & Safety Consultants, L.L.C. (Matrix) was present at the referenced project site on July 3, 2024, for the purpose of collecting dust wipe samples for heavy metals from the referenced property. Matt Dickens, Industrial Hygienist with Matrix, collected the samples. A tank located within the neighborhood of the subject property was renovated and paint removed from the exterior of the structure. The paint that was removed may have contained heavy metals including lead.

There was a concern about the dust that was present throughout the residence, so Matrix collected dust wipes from various surfaces to be tested for the presence of hexavalent chromium and nineteen different heavy metals. In addition, lead dust wipes were collected from various window sills, window wells, floors, and HVAC duct work within the structure. Also, a composite soil sample was collected from the perimeter drip line.

ANALYSIS PROCEDURES

The samples were transported to Scientific Analytical Institute (SAI) under chain-of-custody procedures for laboratory analysis. SAI is accredited by the American Industrial Hygiene Association (AIHA) for laboratory analysis of heavy metals (Lab No. 173190). The hexavalent chromium wipe sample was analyzed using Ion Chromatography OSHA ID-215/OSHA ID-W4001. The heavy metals sample was analyzed using Inductively Coupled Plasma (ICP) NIOSH 7303/EPA SW-846 3050B. Lead dust wipe and soil samples were analyzed using Flame Atomic Absorption Spectroscopy EPA SW-846 3050B/6010C/7000B.

The lead dust wipe sampling was conducted following EPA's work practice standards for conducting lead-based paint activities (40 CFR 745.227), the U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (Guidelines) with the 1997, 2000 and 2012 revisions, and all State and local regulations. However, the State of North Carolina does not allow composite dust wipe samples therefore, only single-surface dust samples were obtained. The walls or sides of the property are distinguished by Side A, B, C, or D. Wall or side A is

facing the front entry door, then moving clockwise would be wall/side B, C (located at rear of property), and D.

Dust wipe sampling for metals was conducted in accordance with ASTM Standard E1728: Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Lead Determination and ASTM Standard D6966: Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Determination of Metals. ASTM Standards E1728 and D6966 are consistent with the methodology described in the Housing and Urban Development Guidelines-Appendix 13.1 and 40 CFR 745.63. Dust wipe sampling for the target metals was conducted on a window sill that had the potential of being contaminated by windborne dust. A representative surface sample area of approximately sixteen inches was measured and delineated with plastic templates for the hexavalent chromium and heavy metals samples, excluding the lead dust wipes (see photo).

SINGLE SURFACE LEAD WIPE SAMPLING RESULTS

Below you will find charts summarizing lead wipe sampling performed at the subject property. EPA standards for clearance wipe sampling are 10 µg/ft2 (floors), 100 µg/ft2 (interior window sills), and 400 µg/ft2 (window wells).

Lead Dust Wipe Results

SAMPLE #	ROOM NAME	SURFACE TYPE	LEAD CONTENT (µg/ft2)
118-LW-1	First Floor Hallway	HVAC Return Duct	3.4
118-LW-2	Second Floor Hallway	HVAC Return Duct	2.3
118-LW-3	Second Floor Hallway	Window Sill	1.3
118-LW-4	Second Floor – Bedroom A/B	Window Well	13
118-LW-5	First Floor – Foyer	Floor	2.5
118-LW-6	First Floor – Kitchen	Floor	2.5
118-LW-7	First Floor – Kitchen	Window Well	76
118-LW-8	First Floor – Foyer	Window Sill	13

The laboratory results of the single-surface wipe samples obtained from the subject property determined that lead concentrations were **below** the HUD/EPA respective standards for lead in dust.

COMPOSITE SOIL SAMPLING RESULTS

For the purpose of this risk assessment, soil samples were obtained as a composite sample in order to represent soil conditions at the subject property. Current EPA Regulations establish lead hazard limits of 400 ppm for high contact playground areas, and 1,200 ppm for other residential yard areas.

Soil Sample Results

Sample #	Location	Bare or Covered	Lead Content (ppm)
118-LS-1	Perimeter Drip Line	Bare	2.0

The laboratory results of the single-surface wipe samples obtained from the subject property determined that lead concentrations were **below** the HUD/EPA respective standards for lead in soil.

HEXAVALENT CHROMIUM SAMPLING RESULTS

Below you will find a table summarizing the hexavalent chromium wipe sampling performed at the subject property. Laboratory results were **below** the detection limit for the analysis method.

Hexavalent Chromium Wipe Results

SAMPLE #	ROOM NAME	SURFACE TYPE	CONCENTRATION (µg/ft²)
118-HC-1	Second Floor Bathroom	Window Sill	<0.43

HEAVY METALS SAMPLE RESULTS

Whereas the Occupational Safety and Health Administration (OSHA) has not established regulatory limits for surface concentrations of metals, the OSHA Technical Manual Section II: Chapter 2 (III.A) describes a method for calculating "housekeeping" standards, as recommended acceptable surface limits. Results of the dust wipe samples collected from the residence contained concentrations of target metals below applicable standards or laboratory reporting limits. Laboratory analysis reports are attached.

Additionally, conditions reported in this report were based on the time of the assessment only and circumstances may change following the sampling. Should further issues occur, or conditions change, it may be necessary to re-evaluate the residence and consider more in-depth testing. An effort was made to provide as complete and comprehensive an evaluation as professionally practical. Observations, findings, results, and conclusions are limited to those conditions apparent at the time of the inspection. It should not be construed that actions taken as a result of this work will achieve complete compliance with every regulatory standard.

Matrix appreciates the opportunity to have provided these services. If there are any questions concerning this report or results, please feel free to contact us.

Sincerely,
MATRIX HEATH & SAFETY CONSULTANTS, L.L.C.

Matt Dickens
Industrial Hygienist

Attachments: Laboratory Analysis Reports
Photos

LABORATORY ANALYTICAL REPORTS

Analysis for Hexavalent Chromium Concentration in Wipe Samples

by Ion Chromatography
OSHA ID-215 / OSHA ID-W4001

Customer: Matrix Health & Safety Consultants
2900-B Yonkers Rd.
Raleigh, NC 27604

Attn: Matt Dickens

Project: 118 Bynum Hill Pittsboro, NC

Lab Order ID: **10056105**
Analysis: HCW
Date Received: 07/05/2024
Date Reported: 07/12/2024

Sample ID *Lab Sample ID*	Description *Lab Notes*	Area (ft^2)	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/ft^2)
118-HC-1 *10056105_0001*	**Upstairs bathroom - window sill**	0.111	0.048	<0.048	**<0.43**

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Unless otherwise noted blank sample correction was not performed on analytical results. Reporting limits stated above. Analytical uncertainty available upon request. Unless indicated, areas and volumes were provided by the customer.

Matthew Caffey (1)
Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Analysis for
Metals Concentration in Wipe Samples

by Inductively-Coupled Plasma (ICP)
NIOSH 7303/EPA SW-846 3050B

Customer: Matrix Health & Safety Consultants
2900-B Yonkers Rd.
Raleigh, NC 27604

Attn: Matt Dickens

Project: 118 Bynum Hill Pittsboro, NC

Lab Order ID: **10056105**
Analysis: IPW
Date Received: 07/05/2024
Date Reported: 07/12/2024

Sample ID *Lab Sample ID*	Description *Lab Notes*	Area (ft^2)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/ft^2)
118-HM-1	**Upstairs bathroom - window sill**	0.111	Al	0.25	90.	810
			Be	0.010	<0.010	<0.090
			Cd	0.050	<0.050	<0.45
			Co	0.25	<0.25	<2.3
			Cr	0.10	0.36	3.3
			Cu	0.25	0.57	5.2
			Fe	0.25	50.	450
			Li	0.10	0.36	3.2
			Mn	0.025	1.1	10.
			Mo	0.25	<0.25	<2.3
			Ni	0.25	0.26	2.3
			P	0.50	42	380
			Pb	0.25	<0.25	<2.3
			Sb	0.75	<0.75	<6.8
			Sr	0.050	2.0	18
			Ti	0.050	8.2	74
			V	0.25	<0.25	<2.3
10056105_0002			Zn	0.25	78	700

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Matthew Caffey (1)
Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

4604 Dundas Dr. Greensboro, NC 27407
Phone: 336.292.3888 Fax: 336.292.3313
www.sallab.com lab@sallab.com

Lab Order ID: 1005 0105
Client Code: _____

Company Contact Information

Company: Matrix	Contact: Matt Dickens
Address: 2900 Yorkmont Rd	Phone ☐:
Raleigh, NC 27604	Fax ☐:
	Email :

Billing/Invoice Information

SAME ☒
Company:
Contact:
Address:

Turn Around Times^

90 Min. ☐	48 Hours ☐
3 Hours ☐	72 Hours ☐
6 Hours ☐	96 Hours ☐
12 Hours ☐	120 Hours ☒
24 Hours ☐	144+Hours ☐

^TATs not available for certain test types

PO Number:

Project Name/Number: 118 Bynum Hill Pittsboro, NC

Industrial Hygiene Test Types

Silica as Alpha Quartz (XSZ)* ☐ With Respirable Dust (XDZ) ☐	
Silica as Cristobalite (XSC)* ☐ With Respirable Dust (XDC) ☐	
Silica as Tridymite (XST)* ☐ With Respirable Dust (XDT) ☐	
Silica as Alpha Quartz, Cristobalite, Tridymite (XSA)* ☐ With Respirable Dust (XDA) ☐	
Silica Bulk (XSI)*	☐
Bulk Phase ID/Whole Rock (XUK)	☐
Total Dust NIOSH Method 0500 (GTD)	☐
Respirable Dust NIOSH Method 0600 (GRD)	☐
PCM NIOSH 7400-A Rules (PCM)	☐
B Rules (PCB) ☐ TWA (PTA) ☐	
TEM NIOSH 7402 (Asbestos) (TNI)	☐
Hexavalent Chromium (OSHA ID-215) (Note if from spray paint operations)	☒
Metals (NIOSH 7300) (Specify Metals Under Comments)	☐
Other welding profile	☒

*Modified NIOSH 7500/OSHA ID 142

Sample ID #	Description/Location	Volume/Area	Comments
118-HC-1	Upstairs Bathroom - Window Sill	4"x4"	Hexavalent Chromium
118-HM-1	Upstairs Bathroom - Window Sill	4"x4"	Welding Profile

Accepted ☒
Rejected ☐

Total # of Samples 2

Relinquished by	Date/Time	Received by	Date/Time
	7/3/24		7/5 1017

Analysis for Lead Concentration in Wipe Samples

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Matrix Health & Safety Consultants
2900-B Yonkers Rd.
Raleigh, NC 27604

Attn: Matt Dickens

Project: 118 Bynum Hill Pittsboro, NC

Lab Order ID: **10055946**
Analysis: PBW
Date Received: 07/05/2024
Date Reported: 07/08/2024

Sample ID *Lab Sample ID*	Description *Lab Notes*	Area (ft^2)	Concentration (µg)	Concentration ($\mu g/ft^2$)
118-LW-1 *10055946_0001*	**HVAC duct - downstairs**	1	3.4	**3.4**
118-LW-2 *10055946_0002*	**HVAC duct - upstairs**	1	2.3	**2.3**
118-LW-3 *10055946_0003*	**Upstairs hall - window sill**	1.677	2.1	**1.3**
118-LW-4 *10055946_0004*	**Bedroom A/B - window well**	0.677	9.1	**13**
118-LW-5 *10055946_0005*	**Foyer - floor**	1	2.5	**2.5**
118-LW-6 *10055946_0006*	**Kitchen - floor**	1	2.5	**2.5**
118-LW-7 *10055946_0007*	**Kitchen - window well**	0.444	34	**76**
118-LW-8 *10055946_0008*	**Foyer - window sill**	0.889	12	**13**

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Matthew Caffey (8)
Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Analysis for Lead Concentration in Soil Samples

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Matrix Health & Safety Consultants
2900-B Yonkers Rd.
Raleigh, NC 27604

Attn: Matt Dickens

Project: 118 Bynum Hill Pittsboro, NC

Lab Order ID: **10055944**
Analysis: PBS
Date Received: 07/05/2024
Date Reported: 07/08/2024

Sample ID *Lab Sample ID*	Description *Lab Notes*	Mass (g)	Concentration (ppm)	Concentration (% by weight)
118-LS-1 ***10055944_0001***	**Perimeter - drip line**	4.2313	2.0	**0.00020%**

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Matthew Caffey (1)
Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

100559424

Scientific Analytical Institute
4604 Dundas Dr. Greensboro, NC 27407
Phone: 336.292.3888 Fax: 336.292.3313
www.sailab.com lab@sailab.com

Lab Use Only
Lab Order ID: _____
Client Code: _____

Contact Information

Company Name:	Matrix
Address:	2900 Yonkers Road Raleigh, NC 27604
Contact:	Matt Dickens
Phone ☐:	
Fax ☐:	
Email ☒:	mdd@matrixhc.com
PO Number:	
Project Name/Number:	118 Byrum Hill Pittsboro, NC

Billing/Invoice Information

Company:	Same
Address:	
Contact:	
Phone ☐:	
Fax ☐:	
Email ☐:	

Lead Test Types

Paint Chips by Flame AA (PBP) ☐	Soil by Flame AA (PBS) ☒	Other ☐
Wipe by Flame AA (PBW) ☒	Air by Flame AA (PBA) ☐	

Turn Around Times

3 Hours	☐	72 Hours	☐
6 Hours	☐	96 Hours	☐
12 Hours	☐	120 Hours	☐
24 Hours	☒	144+ Hours	☐
48 Hours	☐		

Sample ID #	Description/Location	Volume/Area	Comments
118-LW-1	HVAC Duct - Downstairs	12x12	
-2	HVAC Duct - Upstairs	12x12	
-3	Upstairs Hall - Window Sill	7.0x34.5	
-4	Bedroom A/B - Window Well	3x32.5	
-5	Foyer - Floor	12x12	
-6	Kitchen - Floor	12x12	
-7	Kitchen - Window Well	2x32	
-8	Foyer - Window Sill	4x32	
118-LS-1	Perimeter - Drip Line		

Accepted ☒

Rejected ☐

Total Number of Samples 9

Relinquished by	Date/Time	Received by	Date/Time
	7/3/24		7/5 1032

PHOTOS

Reference Photo – 118 Bynum Hill, Pittsboro, NC (Side A)

Example of HVAC return duct sampled for lead dust

Example of HVAC return duct sampled for lead dust

Location of wipe sample for hexavalent chromium

Location of wipe sample for heavy metals profile

Example of subject tank

Example of subject tank