

Asbestos & Lead Paint Inspection Report

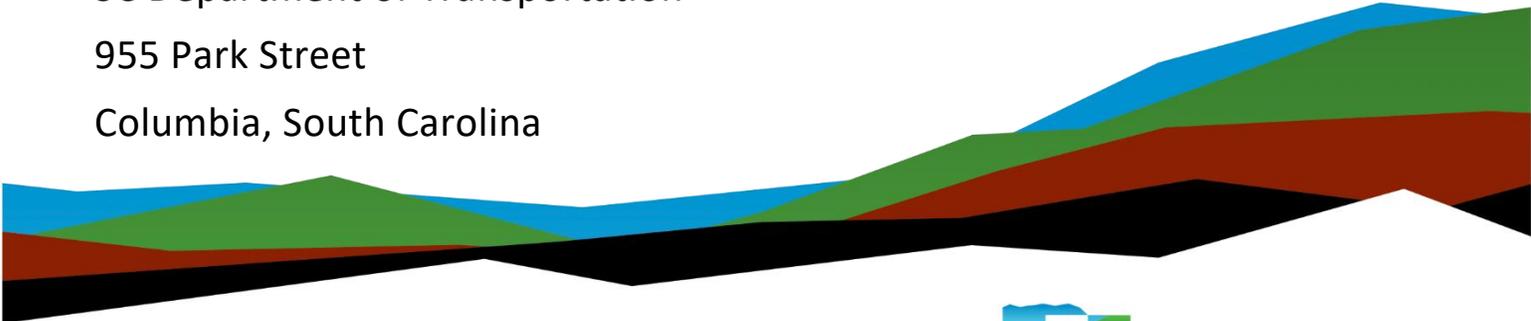
S-23-41 Bridge over Middle Saluda River

December 20, 2023 | Report Number: 7323P180

ASBESTOS DETECTED: NO
LEAD PAINT DETECTED: NO

Prepared for:

SC Department of Transportation
955 Park Street
Columbia, South Carolina



Nationwide
[Terracon.com](https://www.terracon.com)

- Facilities
- Environmental
- Geotechnical
- Materials



521 Clemson Road
Columbia, SC 29229
P (803) 741-9000
F (803) 741-9900
Terracon.com

December 20, 2023

SCDOT
955 Park Street
Columbia, SC 29202

Attn: Mr. Trapp Harris, P.E.

Re: Asbestos & Lead Paint Inspection Report
SCDOT Bridge Package 19
S-23-41 over Middle Saluda River
Bridge Asset No. 04125
Greenville County, South Carolina
Terracon Project No. 7323P180
SCDOT Project No. P041159
Survey Conducted: November 8, 2023

Dear Mr. Harris:

Terracon Consultants, Inc. (Terracon) is pleased to present the results of the asbestos and lead paint inspection performed on the above referenced site. We understand that this inspection was requested due to the planned repair and rehabilitation of the structure.

Terracon appreciates the opportunity to provide environmental consulting services for the SCDOT. If you should have any questions regarding this report, or if you need assistance with bid documents or project oversight, please contact the undersigned at (803) 741-9000.

Sincerely,

Terracon Consultants, Inc.

A handwritten signature in black ink, appearing to read "Adam Chapiesky".

Adam Chapiesky
Certified Operator

A handwritten signature in black ink, appearing to read "Norman E. Partin, Jr.".

Norman E. (Gene) Partin, Jr., CHMM
Department Manager



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EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. The report should be reviewed in its entirety prior to making any decisions regarding this site.

Terracon Consultants Inc. (Terracon) conducted an asbestos and lead paint inspection of building materials at the S-23-41 Bridge over Middle Saluda River located in Greenville County, South Carolina. The purpose of this inspection was to sample and identify suspect asbestos-containing materials (ACM) and provide information regarding the identity, location, condition and approximate quantities of ACM in building components. The objective of the lead paint evaluation was to identify lead containing paint systems on components that may require special handling and disposal considerations upon demolition of the structure.

The survey was performed on November 8, 2023 by a South Carolina Department of Health and Environmental Control (SCDHEC) licensed asbestos inspector in general accordance with our proposal dated September 21, 2023, and the sampling protocols established in EPA 40 CFR 763 (Asbestos Hazard Emergency Response Act, AHERA) and the SCDHEC Regulation 61-86.1 Standards of Performance for Asbestos Projects. Paint samples were collected from visible and accessible building components and paint systems and submitted to an Environmental Laboratory Accreditation Program (ELAP) approved laboratory for analysis of lead.

No suspect asbestos-containing materials (ACM) were observed and therefor no bulk samples were collected. Three (3) paint-chip samples were collected from the components of the structure on the site.

Findings

No suspect ACM was observed on the bridge.

Laboratory analysis did not detect lead concentrations above detection limits in any of the samples.

Recommendations

Based on the scope of services, limitations, and findings of this assessment, Terracon recommends the following:

- A copy of this report must be submitted to SCDHEC at least ten (10) working days prior to demolition when applying for a demolition permit.
- Demolition debris may be disposed of at a C&D Landfill.

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) conducted an asbestos and lead paint survey of building materials at the S-23-41 Bridge over Middle Saluda River located in Greenville County, South Carolina. The asbestos survey was conducted on November 8, 2023, by a South Carolina Department of Health and Environmental Control (SCDHEC) licensed building inspector in general accordance with our Proposal No. 8623P180, dated September 21, 2023.

We understand the asbestos and lead paint inspection was requested due to the planned repair and rehabilitation of the bridge.

2.0 BUILDING DESCRIPTION

The bridge deck of the structure consists of steel and concrete spans. The bridge structure has a combination of concrete and metal guardrails. The bridge deck is supported by concrete pier caps, which are located on metal piers. The bridge structure is approximately 140 feet long and 27 feet wide.

3.0 ASBESTOS INPSECTION

The asbestos inspection was conducted by SCDHEC licensed Asbestos Building Inspector Mr. Adam Chapiessky (License No. BI-001971, exp. 01/03/24). Copies of asbestos licenses are included in Appendix C. The inspection was conducted on November 8, 2023, in general accordance with the sampling protocols established by EPA Regulation 40 CFR 763 Subpart E 763.86, AHERA and SCDHEC R61-86.1. A summary of survey activities is provided below.

3.1 Regulatory Overview

Environmental Protection Agency (EPA) regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during renovation/demolition activities. NESHAP requires that potentially regulated asbestos-containing building materials be identified, classified and quantified prior to planned disturbances or demolition activities. An ACM is defined as any material containing asbestos of any type in an amount greater than one percent (1%). The asbestos NESHAP regulates asbestos fiber emissions and asbestos waste disposal practices. Under NESHAP, asbestos-containing building materials are classified as either friable, Category I non-friable or Category II non-friable ACM. Friable materials are those that, when dry, may

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December 20, 2023 ■ Terracon Project No. 7323P180



be crumbled, pulverized or reduced to powder by hand pressure. Non-friable materials contain asbestos fibers which have been “locked in” by a bonding agent, coating, binder or other materials so that the asbestos is bound and will not readily release fibers during normal handling or use. Category I non friable ACM includes packing materials, gaskets, resilient floor coverings and asphalt roofing products containing more than 1 percent (%) asbestos. Category II non-friable ACM are non-friable materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, Category I and Category II non-friable ACM which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation/demolition activities are considered regulated ACM (RACM). RACM must be removed prior to renovation or demolition activities.

In the state of South Carolina, asbestos activities are regulated by the SCDHEC under the SCDHEC Regulation 61-86.1 Standards of Performance for Asbestos Projects. The SCDHEC require that any asbestos-related activity conducted in a public building be performed by personnel licensed by the SCDHEC. The owner or operator must provide the SCDHEC with written notification of planned abatement and removal activities prior to the commencement of those activities. The SCDHEC requires 4 day notification for non-friable projects and 10 day notification for RACM projects. Asbestos abatement must be performed by SCDHEC-licensed asbestos abatement contractors. A SCDHEC-licensed Project Designer shall prepare a written abatement design for each abatement renovation project involving the removal of greater than 3,000 square, 1,500 linear, or 656 cubic feet of RACM. Third-party air monitoring must be conducted during the abatement of friable (regulated) ACM.

The SCDHEC defines a renovation as, “altering a facility or one or more facility components in any way, including the stripping or removal of RACM from any facility component.” A demolition is defined as, “Wrecking or taking out any load-supporting structural member of a facility together with any related handling operations, the burning of any facility, or moving of a structure.”

The Occupational Safety and Health Administration (OSHA) Asbestos Standard for Construction Industry (29 CFR 1926.1101) regulates workplace exposure to asbestos. The OSHA standard requires that employee exposure to airborne asbestos fibers be maintained below 0.1 asbestos fibers per cubic centimeter of air (0.1 f/cc). The OSHA standard classifies construction and maintenance activities, which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work. A full copy of the OSHA asbestos standard for general industry may be found at OSHA’s website (www.osha.gov) and should be referenced for specific information.

3.2 Visual Assessment

Our inspection activities began with visual observation of the structure to identify apparent homogeneous areas of suspect ACM. A homogeneous area consists of building materials, which appear similar throughout in terms of color, texture and date of application. Building materials which were not identified as concrete, glass, wood, masonry, metal or rubber were considered suspect ACM. Although

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reasonable effort was made to survey accessible suspect materials, additional suspect but un-sampled materials could be located in walls, in voids or in other concealed areas.

Visual inspection of the bridge did not identify any suspect ACM.

3.3 Findings

During the inspection, no suspect asbestos containing material was identified.

4.0 LEAD PAINT SAMPLING

The objective of the lead paint sampling was to identify lead containing paint systems on structural components that may require special handling and disposal considerations upon demolition of the structure. SCDHEC regulates solid waste disposal under Regulation 61-107.19 as noted below. Testing was performed to meet specific State disposal requirements and does not comply with all parts of the Occupational Health and Safety Administrations (OSHA) lead regulations. Testing to comply with OSHA regulations are not covered in our scope of work since it is the responsibility of the contractor to protect its employees.

4.1 Regulatory Overview

Lead is regulated by the EPA, SCDHEC and OSHA. The EPA and SCDHEC regulate lead use, removal, and disposal, and OSHA regulates lead exposure to workers. The EPA defines LBP as paint, varnish, stain, or other applied coating that contains lead equal to or greater than 1.0 mg/cm², 5,000 mg/kg, or 0.5% by dry weight as determined by laboratory analysis. The SCDHEC regulations 61-107.19 require that painted demolition debris with a lead concentration greater than 0.06% by weight be disposed in a permitted Class II landfill. For the purpose of the OSHA lead standard, lead includes metallic lead, all inorganic lead compounds, and organic lead soaps. The complete OSHA standard for compliance can be found on OSHA's website (www.osha.gov). A synopsis of the OSHA regulations (29 CFR 1926.62) and the applicability are as follows:

The OSHA *Lead Standard for Construction* (29 CFR 1926.62) applies to all construction work where an employee may be occupationally exposed to lead. All work related to construction, alteration, or repair (including painting and decorating) is included. The lead-in-construction standard applies to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon on the method of removal and other workplace conditions. Under this standard, construction includes, but is not limited to, the following:

- Demolition or salvage of structures where lead or materials containing lead are present

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- Removal or encapsulation of materials containing lead
- New construction, alteration, repair, or renovation of structures, substrates, or portions containing lead, or materials containing lead
- Installation of products containing lead
- Lead contamination/emergency clean-up
- Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed
- Maintenance operations associated with construction activities described above

4.2 Sampling and Analytical Protocol

Adam Chapiessky of Terracon conducted the lead paint (LP) sampling on November 8, 2023. The LP sampling was conducted by collecting paint chip samples. The paint chip samples were collected from painted or lacquered surfaces of structural components likely to contain LP, based on apparent date of application. The paint samples were collected down to the surface substrate so as to include any underlying paint systems in the analysis. The random paint chip samples were selected based on current paint schemes and may not be inclusive of old paint systems covered with paneling, or existing painted systems. The paint chip samples were submitted to an ELAP approved laboratory for analysis of lead by NIOSH Method 7082M (atomic absorption).

4.3 Sample Collection

Three (3) paint samples were collected from painted surfaces on the structure. Paint sampled included: white stripe, yellow stripe, and gray steel beam paint.

4.4 Findings

Lead was not detected above the detection limits in any of the paint chip samples collected. A summary of the lead paint laboratory results is presented in Table 1. The analytical report is included in Appendix B.

4.5 Recommendations

Based on the scope of services, limitations, and findings of this assessment, Terracon recommends the following:

- No further considerations are required regarding lead paint. Debris may be disposed as demolition debris.

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5.0 LIMITATIONS / GENERAL COMMENTS

This survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the structure. The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date.

This report has been prepared on behalf of and exclusively for use by SCDOT for specific application to their project as discussed. Terracon does not warrant the work of regulatory agencies, laboratories or other third parties supplying information, which may have been used in the preparation of this report. No warranty, express or implied is made.

This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary.

TABLES

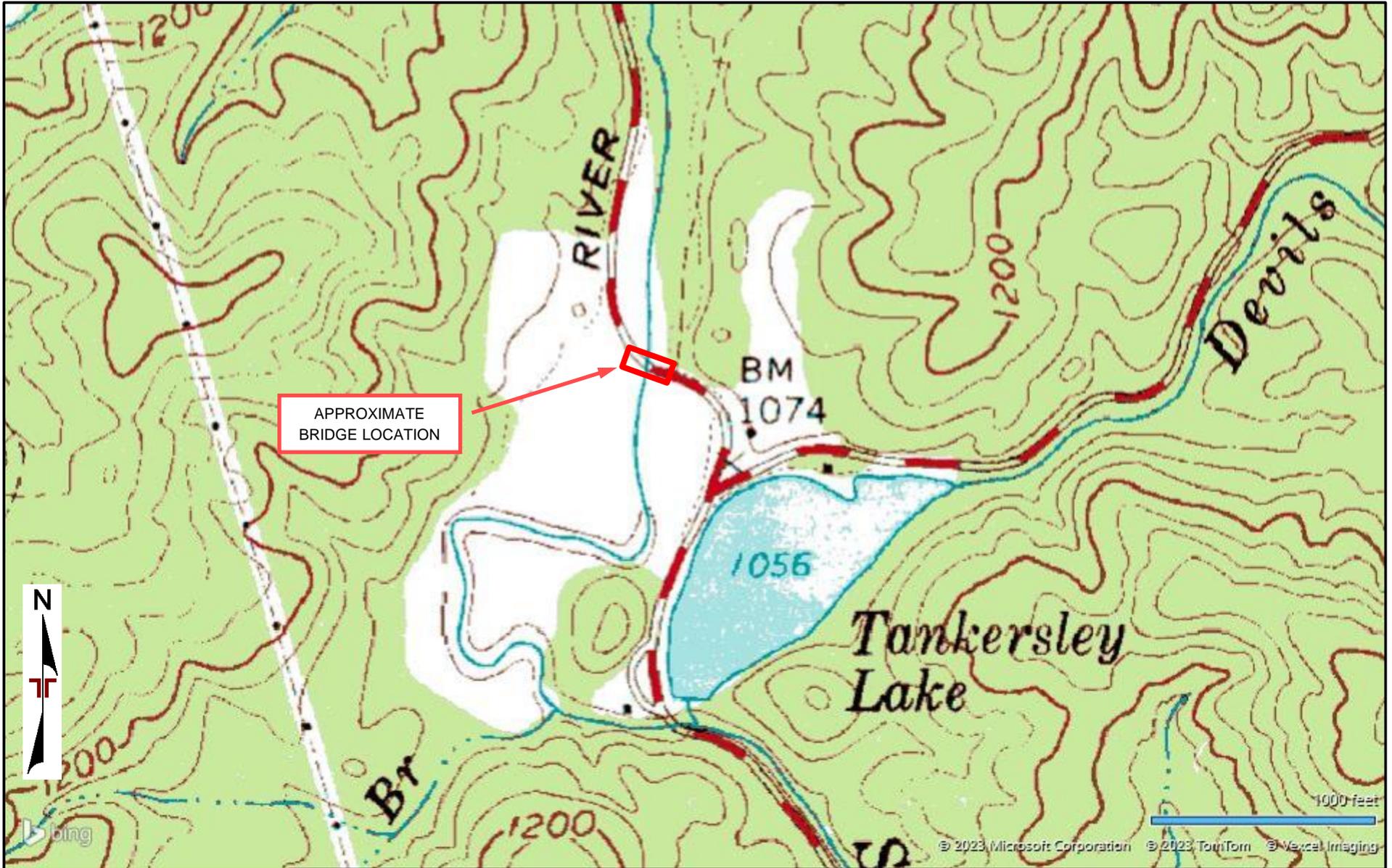
TABLE 1 - Lead Paint Sample Summary
S-23-41 over Middle Saluda River
Greenville, South Carolina
Project No. 7323P180

Sample Number	Description	Location	Lab Result
LP-1	White Stripe Paint	Structural pipe brace	<0.0080%
LP-2	Yellow Stripe Paint	Metal decking brace	<0.0080%
LP-3	Silver Paint	White stripe	<0.0080%

Note:

Results in boldface indicate concentration above the SCDHEC regulatory limit (0.06%)

FIGURES



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY QUADRANGLES INCLUDE: CLEVELAND, SC (1/1/1961).

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager: ADC
 Drawn by: PTK
 Checked by: ADC
 Approved by: AF

Project No. 7323P180
 Scale: AS SHOWN
 File Name: Exh 1
 Date: Dec 2023

Terracon

521 Clemson Rd
 Columbia, SC 29229-4307

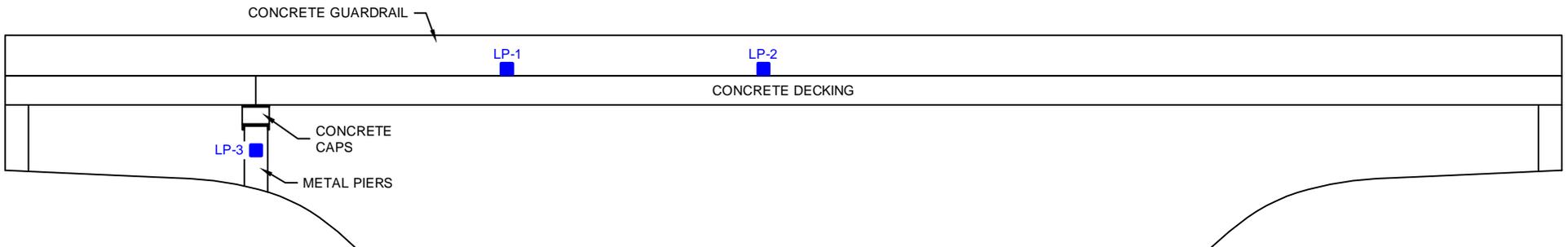
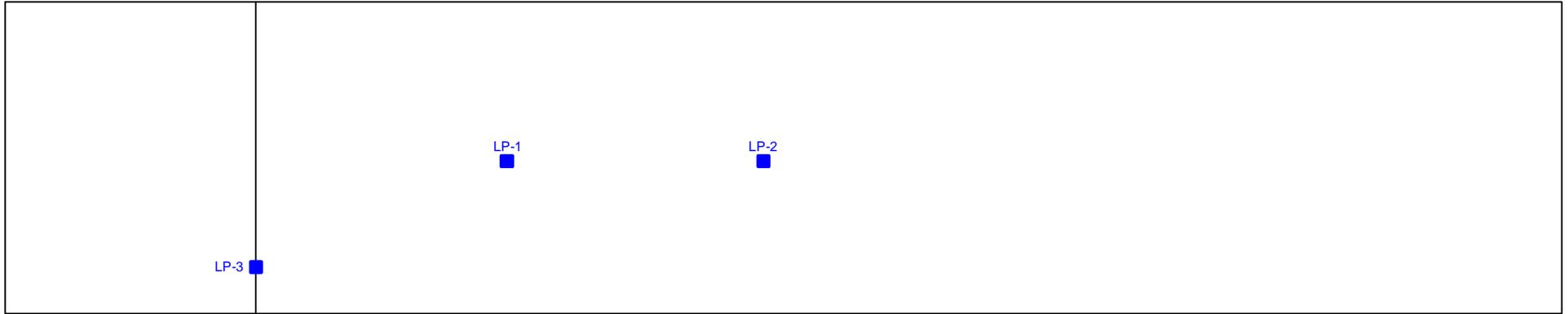
TOPOGRAPHIC MAP

S-23-41 Over Middle Saluda River
 River Falls Road
 Greenville County, South Carolina
 Bridge #04125

Exhibit

1

PLAN VIEW



PROFILE VIEW

EXPLANATION

- POSITIVE LEAD PAINT SAMPLE LOCATION
- NEGATIVE LEAD PAINT SAMPLE LOCATION

Project Mngr: ADC Drawn By: PTK Checked By: ADC Approved By: AF	Project No. 7323P180 Scale: NOT TO SCALE File No. S-23-41 Date: DECMEBER 2023	 Consulting Engineers and Scientists 521 CLEMSON ROAD COLUMBIA, SOUTH CAROLINA PH. (803) 741-9000 FAX. (803) 741-9900	SAMPLE LOCATION PLAN S-23-41 OVER MIDDLE SALUDA RIVER RIVER FALLS ROAD GREENVILLE COUNTY, SOUTH CAROLINA BRIDGE #04125	Exhibit 2
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DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

APPENDIX A

Photo Documentation



PHOTO # 1 View of the bridge facing to the east.



PHOTO # 2 View of the side of the bridge facing south-east.



PHOTO # 3 View of LP-1 yellow stripe paint.



PHOTO # 4 View of LP-2 white stripe paint.



PHOTO # 5 View of LP-3 Grey pier paint.

PHOTO #

APPENDIX B

Laboratory Reports



EMSL Analytical, Inc.

10801 Southern Loop Blvd, Pineville, NC 28134
Phone/Fax: (704) 525-2205 / (704) 525-2382
<http://www.EMSL.com> charlottelab@emsl.com

EMSL Order: 412313495
CustomerID: GAGE62
CustomerPO: 7323P180T
ProjectID:

Attn: **Adam Chapiesky**
Terracon Consultants, Inc.
521 Clemson Road
Columbia, SC 29229

Phone: (803) 741-9000
Fax: (803) 741-9900
Received: 11/10/2023 09:30 AM
Collected: 11/8/2023

Project: **S-23-41 over Middle Saluda River**

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

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
LP-1 Site: White Stripe Paint	412313495-0001	11/8/2023	11/10/2023	0.2595 g	<0.0080 % wt
LP-2 Site: Yellow Stripe Paint	412313495-0002	11/8/2023	11/10/2023	0.2564 g	<0.0080 % wt
LP-3 Site: Silver Paint	412313495-0003	11/8/2023	11/10/2023	0.2564 g	<0.0080 % wt

Aaron Hartley, Lead Technical Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. 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 or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.
* Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.
Samples analyzed by EMSL Analytical, Inc. Pineville, NC AIHA LAP, LLC-ELLAP Accredited #192283

Initial report from 11/10/2023 16:04:05



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING
LABORATORY • PRODUCTS • TRAINING

Lead (Pb) Chain of Custody

EMSL Order ID (Lab Use Only):

412313495

Company: Terracon Consultants, Inc.		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 521 Clemson Road		<i>Third Party Billing requires written authorization from third party</i>	
City: Columbia	State/Province: SC	Zip/Postal Code: 29229	Country: US
Report To (Name): Adam Chapiesky		Telephone #: 803-741-9000	
Email Address: Adam.Chapiesky@terracon.com		Fax #: 803-741-9900	Purchase Order: 732391807
Project Name/Number: S-23-41 over middle Saluda river		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken: SC		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

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 <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> mg/cm ² <input type="checkbox"/> ppm (mg/kg)	SW846-7000B	Flame Atomic Absorption	0.01%	<input checked="" type="checkbox"/>
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	<input type="checkbox"/>
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	<input type="checkbox"/>
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter	<input type="checkbox"/>
Wipe* ASTM <input type="checkbox"/> non ASTM <input type="checkbox"/> <small>*if no box checked, non-ASTM Wipe assumed</small>	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	<input type="checkbox"/>
	SW846-6010B or C	ICP-OES	1.0 µg/wipe	<input type="checkbox"/>
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	<input type="checkbox"/>
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

Name of Sampler: Adam Chapiesky **Signature of Sampler:** *[Signature]*

Sample #	Location	Volume/Area	Date/Time Sampled
LP-1	White stripe paint		11/8/23
LP-2	Yellow stripe paint		↓

Client Sample #s: LP-1, LP-3 **Total # of Samples:** 3

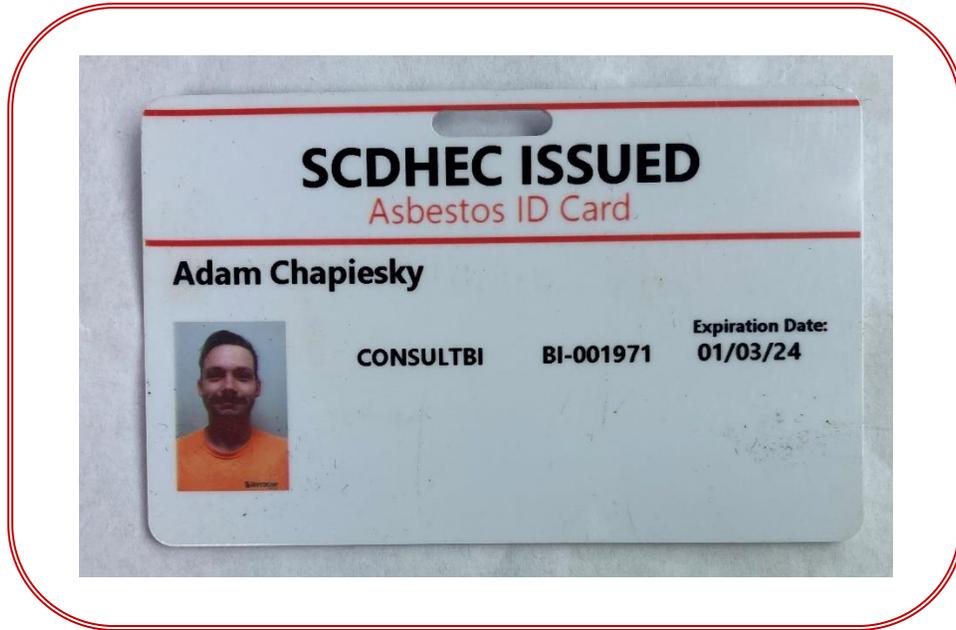
Relinquished (Client): *[Signature]* **Date:** 11/8/23 **Time:** 1700

Received (Lab): *[Signature]* **Date:** 11/10/23 **Time:** 930Am EFX

Comments: Project # 73239180 T 7967 3951 5240

APPENDIX C

Inspector Credentials



Adam Chapiesky

Asbestos Building Inspector BI-001971

