

S-36-39 (Holy Trinity Church Road) Bridge Over I-26
Newberry County, South Carolina

Asbestos and Lead-Based Paint
Survey Report

ARM Project #16-326-16

May 25, 2017

Prepared For:

Civil Engineering Consulting Services, Inc.
2000 Park Street, Suite 201
Columbia, South Carolina, 29201

☒ Yes, Asbestos was found

☐ No, Asbestos was not found

☒ Yes, Lead-Based Paint was found

☐ No, Lead-Based Paint was not found

Samples Collected By:

Robbie Robertson

Robbie Robertson

ASBESTOS CONSULTANT/BUILDING INSPECTOR

SCDHEC LICENSE #01179

Report Compiled By:

Richard Ciccolella

Richard Ciccolella

PROJECT MANAGER

Report Reviewed By:

Sid Havird

Sid Havird

ASBESTOS CONSULTANT/ BUILDING INSPECTOR

SCDHEC LICENSE #BI-00258



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ASBESTOS AND LEAD-BASED PAINT SURVEY

On May 12, 2017 ARM Environmental Services, Inc. performed an asbestos and lead-based paint survey of the S-36-39 (Trinity Church Road) Bridge over Interstate 26 (I-26), located in Newberry County, South Carolina. The bridge location is shown in Appendix A, Figure 1. The bridge consists of concrete decking on concrete beams and concrete piers, pier caps, and steel bridge shoes. The asbestos survey has been conducted in accordance with the Asbestos Hazard Emergency Response Act (AHERA) guidelines, as required by the Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (DHEC) prior to renovation or demolition of public or commercial structures. The lead-based paint survey was performed to identify lead-based paint (LBP) on the bridge.

BRIDGE MATERIALS

No construction records were available to determine the building materials used in construction of the structure. All accessible structural components including columns, piers, bridge decks, beams, bridge shoes, end bents, and buffer materials were examined. Photographs of the site are provided in Appendix F.

The bridge deck of the structure consists of pre-cast concrete deck sections with a concrete surface. The concrete decking is supported by concrete beams. Steel bridge shoes are located between the concrete beams and the concrete pier caps, which are supported by concrete piers. Concrete guardrails are located on top of the bridge and galvanized metal approach guardrails are located at either end of the bridge structure. The bridge structure is estimated to be 225 feet long and 30 feet wide. Three materials were identified as suspect asbestos containing materials associated with the structure as described below:

- Transite drain pipes through the bridge decking
- Black asphaltic expansion joint material
- Black asphaltic buffer material between bridge deck and rail sections

ASBESTOS SURVEY

Samples of the suspect materials were collected and submitted for laboratory analysis for Polarized Light Microscopy (PLM). One sample of each material was also collected for Transmission Electron Microscopy (TEM) confirmation analysis in the event that the PLM analysis indicated less than 1 percent asbestos. The sample locations are shown in Appendix A, Figure 2. The results of the laboratory analysis are presented in Table 1 on the following page.

Table 1: Asbestos Sample Results Summary

Sample Number	Suspect Material	Material Location	Present Condition	Analytical Results*	Estimated Material Quantity
01, 02, 03	Transite Drain	Drain pipes through bridge deck	Good / NF	70% Chrysotile Asbestos 3% Crocidolite Asbestos	8 LF
04, 05, 06	Expansion Joint Material	Between bridge deck sections	Good / NF	No Asbestos Detected	150 LF
07, 08, 09	Buffer Material	Between bridge deck and concrete rail sections	Good / NF	No Asbestos Detected	325 SF

***Asbestos Content:** USEPA and SCDHEC regulations (No. 61-86.1) define asbestos containing material as any material greater than one percent asbestos. OSHA recommends that a negative exposure assessment (NEA) be conducted to establish appropriate personal protection equipment needed (if any) for all persons that might disturb asbestos materials.

Notes: **Good** (very localized limited damage) **Damaged** (damage of less than 10% distributed & less than 25% localized) **Significantly Damaged** (damage equal to or greater than 10% distributed/25% localized) **F**=Friable **NF**=Non-Friable

*Friable: Describes a material which, when dry, can be crumbled, pulverized, or reduced to powder with hand pressure.

The sample results indicated that the bridge drain pipe material contains asbestos. The laboratory results are included in Appendix C of this report.

ASBESTOS CONCLUSIONS / RECOMMENDATIONS

An asbestos inspection was performed for a structure, the S-36-39 Bridge located over I-26, in Newberry County, South Carolina. **The results of the asbestos survey indicate that the transite bridge drains are an asbestos containing material (ACM).** In its present condition, and without significant disturbance, there is a low potential for significant concentrations of asbestos fibers to be released from this material. However, it is recommended that this material be removed prior to any renovation, demolition, or other process that might disturb the material, or render it friable. SCDHEC regulations will not allow for a Category II ACM such as this to be left in place during demolition activities. Based on the potential for the ACM to be rendered friable during the removal process, it is recommended that the removal of this material be conducted by a licensed abatement contractor. No other asbestos containing materials were identified on the bridge structure.

The results of this asbestos survey are limited to the sampled materials, which are considered to be representative of the homogeneous areas from which the samples were collected. **In the event that any suspect asbestos containing materials that were not addressed in this survey are encountered, the materials should be presumed to contain asbestos until laboratory analysis can be conducted.** If the structure is to be demolished or renovated, a copy of this report and a notification of demolition or renovation forms must be submitted to the South Carolina Department of Health and Environmental Control at least ten working days prior to these activities taking place. Copies of the DHEC regulatory requirements for renovations and demolition are included in Appendix E of this report.

LEAD-BASED PAINT SURVEY

ARM personnel conducted a lead-based paint survey of accessible painted bridge materials on May 12, 2017. The LBP inspection was conducted using a Niton XLp-303A X-ray Fluorescence (XRF) Analyzer (Serial #17307) to measure the lead content of surface coatings on representative bridge building components. A homogenous bridge building component is a building material that is uniform in color, texture, and appears identical in every respect. EPA guidelines define lead-based paint as any paint with equal to or greater than 1.0 milligram of lead per square centimeter of painted surface (mg/cm^2) when measured by X-ray Fluorescence. In this survey, the limit for lead in paint was decreased to 0.7 milligrams of lead per square centimeter of painted surface when measured by the XRF since the structure may be slated for renovation or demolition. All waste debris coated with lead-based paint equal to or greater than $0.7\text{mg}/\text{cm}^2$ must be disposed of in an approved Class II (C&D) or Class III (MSWLF) landfill or approved metal recycler.

The bridge structure is primarily composed of concrete decking, concrete beams, steel bridge shoes, concrete pier caps, and concrete piers. The positive results ($> 0.7 \text{ mg}/\text{cm}^2$) of the XRF analysis are summarized in Table 2 below.

Table 2: Bridge Building Material XRF Summary

Reading Number	Material Description	Material Location	Color	Material Condition	LEAD Content mg/cm ²
15	Bridge Shoe	Between Concrete Piers and Concrete Pier Caps	Gray	Poor	12.20
16	Bridge Shoe	Between Concrete Piers and Concrete Pier Caps	Gray	Poor	8.60
17	Bridge Shoe	Between Concrete Piers and Concrete Pier Caps	Gray	Poor	10.10
19	Anchor Bolt Plate	Sides of Bridge	Gray	Intact	7.90
20	Anchor Bolt Plate	Sides of Bridge	Gray	Intact	5.30

Lead Content: EPA guidelines define lead-based paint as any paint with equal to or greater than 1.0 milligram of lead per square centimeter of painted surface (mg/cm²) when measured by X-ray Fluorescence. DHEC guidelines define lead-based paint as any paint with equal to or greater than 0.7 mg/cm² when measured by X-ray Fluorescence. The OSHA Lead in Construction Standard, 29 CFR 1926.62 is applied if any lead is present in the sample.

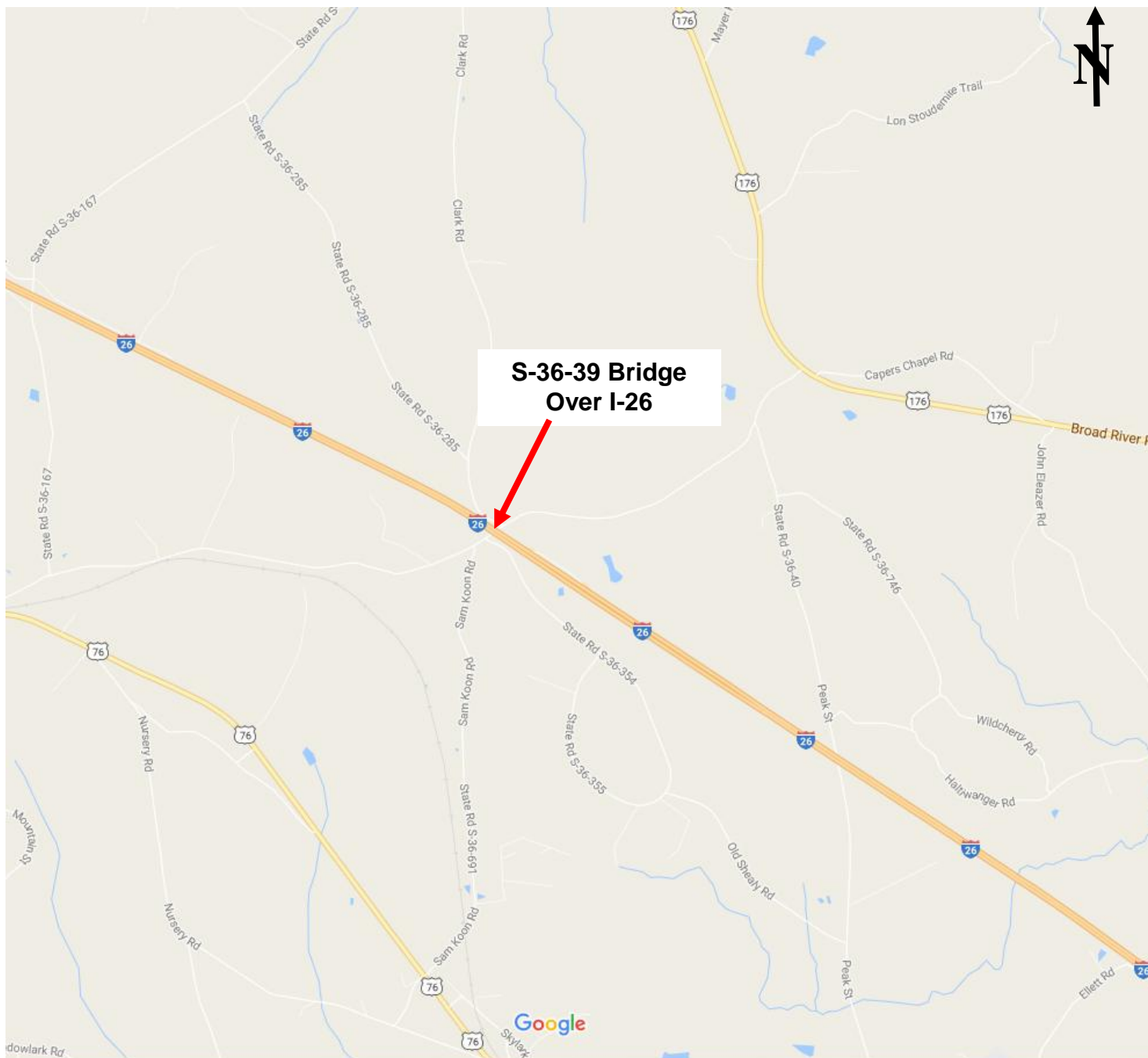
The results of these analyses indicate that the metal components of the bridge structure, except for the galvanized metal approach guard rails, tested positive for lead-based paint. The XRF data results are presented in Appendix D. Photographs of the site are located in Appendix F.


LEAD-BASED PAINT CONCLUSIONS / RECOMENDATIONS

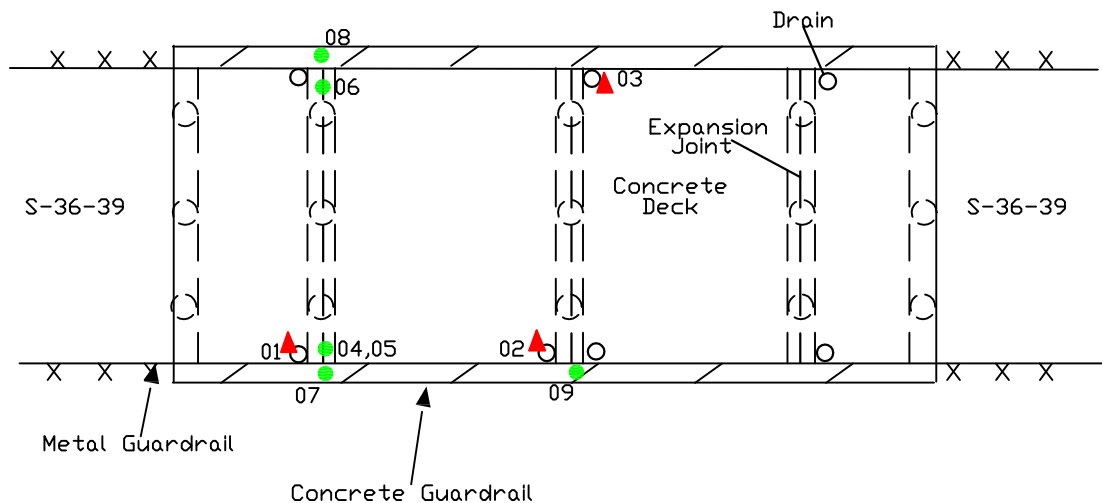
A lead-based paint survey was performed for the S-36-39 Bridge over I-26 in Newberry County, South Carolina. **The results of the XRF analyses indicate that all of the metal components of the bridge structure, except for the galvanized metal guard rails are coated with lead based paint. These materials include the anchor bolt plates and bolts and the bridge shoes.** If these bridge components are disturbed during renovation or demolition, contractors and workers should be informed as to the presence of lead-based paint and appropriate work practices and personal protective equipment should be used to prevent exposure to lead dust/fumes or spreading lead contamination from the work site. The building components containing lead based paint should be disposed of in accordance with federal and state regulations. All waste debris coated with lead-based paint equal to or greater than 0.7mg/cm² must be disposed of in an approved Class Two (C&D) or Class Three (MSWLF) landfill or approved metal recycler. The OSHA lead standard for construction work (29CFR 1926.62) would apply to all demolition or renovation activities that disturb any of the materials containing lead.

APPENDIX A

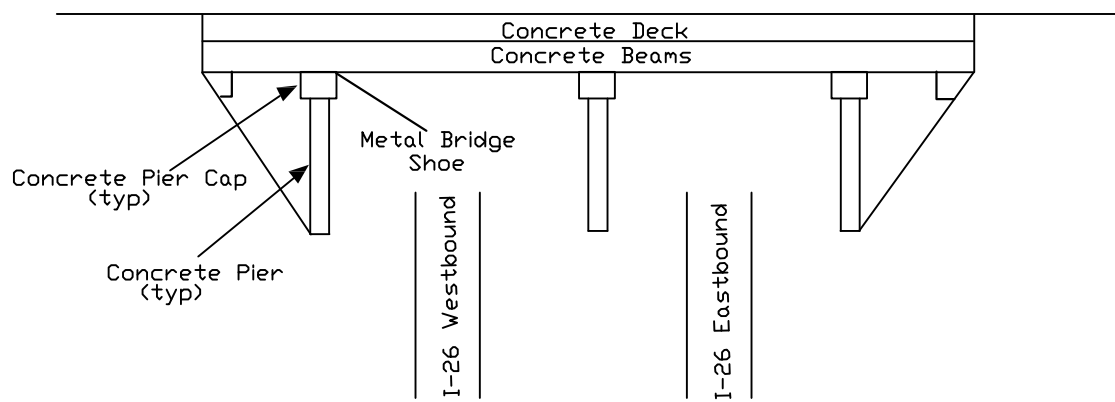
Figures



Project Asbestos & Lead Based Paint Survey S-36-39 (Holy Trinity Church Road) Bridge Over I-26 Newberry County, South Carolina	Figure 1 Site Location Map	
Scale No Scale	Date May 2017	



Plan View



Profile View

<p>PROJECT:</p> <p>Asbestos & Lead-based Paint Survey S-36-39 Bridge Crossing I-26 Newberry County, South Carolina ARM Project # 16-326-16</p>	<p>DESCRIPTION:</p> <p>Site Plan Showing Sample Locations</p> <p>(Map Not To Scale)</p>	<div>FIGURE 2</div> <p>DATE:</p> <p>May 2017</p>
	<p>REFERENCE:</p> <p>Field Notes</p>	<p>LEGEND:</p> <p>Negative Asbestos Sample = ●</p> <p>Positive Asbestos Sample = ▲</p>

APPENDIX B

Licenses / Certifications

SCDHEC ISSUED
Asbestos ID Card

Robbie Robertson



Expiration Date
CONSULTBI BI-01179 11/30/17
SUPERAHERA SA-01861 11/29/17



APPLIED BUILDING SCIENCES INC.
ENGINEERS, ARCHITECTS AND
ENVIRONMENTAL CONSULTANTS

Myrtle Beach, South Carolina 29577

803-345-3833

Robbie Robertson

SSN xxx-xx-3715

This is to certify that the above named student has completed the requisite training for asbestos accreditation under TSCA Title II and has met the requirements of and passed the examination for an EPA approved:

AHERA Asbestos Inspector Refresher

Course Location: Irmo SC

Certificate Number: 20161130Ab301-04

Start Date November 30, 2016

End Date November 30, 2016

Exam Date: November 30, 2016

Expiration Date November 29, 2017

Principal Instructor / Training Administrator - Lee Capell

11/30/2016

Date

APPENDIX C

Lab Results



EMSL Analytical, Inc.

376 Crompton Street Charlotte, NC 28273

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com / charlottelab@emsl.com>

EMSL Order: 411703781

Customer ID: ARM62

Customer PO:

Project ID:

Attention: Sid Havird

ARM Environmental Services, Inc.

1210 1st Street South Extension

Columbia, SC 29209

Phone: (803) 783-3314

Fax: (803) 783-2587

Received Date: 05/15/2017 9:00 AM

Analysis Date: 05/15/2017

Collected Date: 05/12/1971

Project: CES (S-36-39) Bridge Over I-26

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
01 411703781-0001	Bridge Drains - Grey Drain Liners	Gray/Blue Fibrous Heterogeneous		27% Non-fibrous (Other)	70% Chrysotile 3% Crocidolite
02 411703781-0002	Bridge Drains - Grey Drain Liners				Positive Stop (Not Analyzed)
03 411703781-0003	Bridge Drains - Grey Drain Liners				Positive Stop (Not Analyzed)
04 411703781-0004	Between Bridge Sections - Black Expansion Joint Material	Black Non-Fibrous Homogeneous	8% Cellulose	5% Ca Carbonate 87% Non-fibrous (Other)	None Detected
05 411703781-0005	Between Bridge Sections - Black Expansion Joint Material	Black Non-Fibrous Homogeneous	15% Cellulose	5% Ca Carbonate 80% Non-fibrous (Other)	None Detected
07 411703781-0006	Bridge Buffer Material at Beam - Black Buffer Material	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
08 411703781-0007	Bridge Buffer Material at Beam - Black Buffer Material	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected

Analyst(s)

Eric Loomis (3)

Lytterra Barrow (2)

Lee Plumley, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported 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. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Charlotte, NC NVLAP Lab Code 200841-0, VA 3333 00312

Initial report from: 05/15/2017 13:35:12



EMSL Analytical, Inc.

376 Crompton Street Charlotte, NC 28273

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 411703781

Customer ID: ARM62

Customer PO:

Project ID:

Attention: Sid Havird
ARM Environmental Services, Inc.
1210 1st Street South Extension
Columbia, SC 29209

Phone: (803) 783-3314

Fax: (803) 783-2587

Received Date: 05/15/2017 9:00 AM

Analysis Date: 05/16/2017

Collected Date: 05/12/1971

Project: CES (S-36-39) Bridge Over I-26

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
06 411703781-0008	Between Bridge Sections - Black Expansion Joint Material	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
09 411703781-0009	Bridge Buffer Material at Beam - Black Buffer Material	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Derrick Young (2)

Lee Plumley, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Charlotte, NC

Initial report from: 05/16/2017 13:08:38



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

41170 3781

376 Crompton Street

Charlotte, NC 28273

PHONE: (704) 525-2205

FAX: (704) 525 2382

Company: ARM Environmental		EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 1210 First Street South Ext.		Third Party Billing requires written authorization from third party	
City: Columbia	State/Province: SC	Zip/Postal Code: 29209	Country: United States
Report To (Name): Sid Havird		Telephone #: 803-783-3314	
Email Address: rciccolella@armenv.com, robertson@armenv.com		Fax #: 803-783-2587	Purchase Order: 16-326-16
Project Name/Number: CES (S-36-39) Bridge over I-26		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail	
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			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input checked="" type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide			
PLM - Bulk (reporting limit)		TEM - Bulk	
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NY ELAP Method 198.1 (friable in NY) <input type="checkbox"/> NY ELAP Method 198.6 NOB (non-friable-NY) <input type="checkbox"/> OSHA ID-191 Modified <input type="checkbox"/> Standard Addition Method		<input checked="" type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> NY ELAP Method 198.4 (TEM) <input type="checkbox"/> Chatfield Protocol (semi-quantitative) <input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2 <input type="checkbox"/> TEM Qualitative via Filtration Prep Technique <input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique	
		Other	
		<input type="checkbox"/>	
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Date Sampled: 5-12-17	
Samplers Name: Robbie Robertson		Samplers Signature: <i>Robbie Robertson</i>	

Sample #	HA #	Sample Location	Material Description
01-03	1	Bridge Drains	Grey drain liner (PLM)
04,05	2	Between Bridge Sections	Black expansion joint material (PLM)
06	2	Between Bridge Sections	Black expansion joint material (TEM)
07,08	3	Bridge Buffer Material @ Beam	Black buffer material (PLM)
09	3	Bridge Buffer Material @ Beam	Black buffer material (TEM)

Client Sample # (s): 01 - 09		Total # of Samples: 9	
Relinquished (Client): <i>Robbie Robertson</i>		Date: 5-12-17	Time: 1600
Received (Lab): <i>[Signature]</i>		Date: 5/15/17	Time: 9:00 AM
Comments/Special Instructions: Run PLM analyses first and if less than 1% run TEM confirmation on all NOB materials Bill To: ARM Environmental, 1210 First Street South Ext., Columbia, SC, 29209, United States Attention: Gail Cruz Phone: 803-783-3314 Email: gcruz@armenv.com Purchase Order:			

EMSL FDX 7952 0416 915

APPENDIX D

XRF Data

Index	Time	Component	Substrate	Side	Condition	Color	Site	Results	Action Level	PbC
1	2017-05-12 10:01									2.45 ± 0.00
2	2017-05-12 10:02			CALIBRATE				Positive	0.70	1.20 ± 0.50
3	2017-05-12 10:02			CALIBRATE				Positive	0.70	1.00 ± 0.30
4	2017-05-12 10:03			CALIBRATE				Positive	0.70	1.00 ± 0.30
5	2017-05-12 10:09	bridge shoes	METAL	LOWER	INTACT	grey	sc 202 bridge @ I26	Positive	0.70	25.80 ± 19.60
6	2017-05-12 10:09	bridge shoes	METAL	LOWER	INTACT	grey	sc 202 bridge @ I26	Positive	0.70	25.40 ± 19.00
7	2017-05-12 10:10	bridge shoes	METAL	LOWER	INTACT	grey	sc 202 bridge @ I26	Positive	0.70	18.60 ± 16.80
8	2017-05-12 10:13	sign bracket	METAL	UPPER	INTACT	grey	sc 202 bridge @ I26	Null	0.70	0.50 ± 1.30
9	2017-05-12 10:13	sign bracket	METAL	UPPER	INTACT	grey	sc 202 bridge @ I26	Null	0.70	0.60 ± 1.40
10	2017-05-12 10:56	bridge shoes	METAL	LOWER	INTACT	grey	S36-167 PARR RD BO I26	Positive	0.70	9.80 ± 8.60
11	2017-05-12 10:56	bridge shoes	METAL	LOWER	INTACT	grey	S36-167 PARR RD BO I26	Positive	0.70	11.00 ± 10.10
12	2017-05-12 10:57	bridge shoes	METAL	LOWER	INTACT	grey	S36-167 PARR RD BO I26	Positive	0.70	14.40 ± 11.40
13	2017-05-12 10:59	bolt plates	METAL	UPPER	INTACT	grey	S36-167 PARR RD BO I26	Positive	0.70	2.30 ± 1.50
14	2017-05-12 11:00	bolt plates	METAL	UPPER	INTACT	grey	S36-167 PARR RD BO I26	Positive	0.70	9.50 ± 7.60
15	2017-05-12 11:31	Bridge shoes	METAL	LOWER	INTACT	grey	S36-39 BRIDGE OVER I26	Positive	0.70	12.20 ± 10.40
16	2017-05-12 11:31	Bridge shoes	METAL	LOWER	INTACT	grey	S36-39 BRIDGE OVER I26	Positive	0.70	8.60 ± 7.50
17	2017-05-12 11:32	Bridge shoes	METAL	LOWER	INTACT	grey	S36-39 BRIDGE OVER I26	Positive	0.70	10.10 ± 8.10
18	2017-05-12 11:33	bolt plates	METAL	UPPER	INTACT	grey	S36-39 BRIDGE OVER I26	Null	0.70	0.50 ± 0.30
19	2017-05-12 11:35	bolt plates	METAL	UPPER	INTACT	grey	S36-39 BRIDGE OVER I26	Positive	0.70	7.90 ± 5.90
20	2017-05-12 11:35	bolt plates	METAL	UPPER	INTACT	grey	S36-39 BRIDGE OVER I26	Positive	0.70	5.30 ± 3.70
21	2017-05-12 11:37			CALIBRATE				Positive	0.70	1.10 ± 0.40
22	2017-05-12 11:37			CALIBRATE				Positive	0.70	1.00 ± 0.30
23	2017-05-12 11:38			CALIBRATE				Positive	0.70	1.00 ± 0.30

APPENDIX E

SCDHEC Renovation and Demolition Guidelines

Q. Am I required to submit notification of all *renovation* projects?

A. Each owner/operator must notify DHEC's Asbestos Section in writing before beginning any renovation activity of a regulated facility/structure only if the scope of work contains asbestos. (see chart below)

Project Type	Minimum Required Notification Period
DEMOLITION	10 Working Days
NESHAP Removal (> or = 160 SF, 260 LF, or 35 CF)	10 Working Days
SMALL Removal (> 25 SF but < 160 SF, 260 LF, or 35 CF)	4 Working Days
MINOR Removal (< or = 25 SF)	2 Working Days
Non-Friable NESHAP-Sized Removal (non-friable > or = 160 SF, 260 LF, or 35 CF)	4 Working Days

Q. How do I notify DHEC's Asbestos Section?

A. Get notification forms by calling or writing to:

S.C. DHEC Asbestos Section
2600 Bull Street
Columbia, SC 29201
(803) 898-4289

DHEC's Asbestos Section will mail you the necessary forms and can answer any questions you may have.

The forms and additional information are also available to view and download from the DHEC Asbestos Section's Web site at:

www.scdhec.gov/asbestos

This brochure is a brief overview of South Carolina's asbestos regulations pertaining to demolition and renovation activities. Before owners or operators become involved in demolition and renovation activities, they are encouraged to contact the DHEC-Asbestos Section to make sure they understand the applicable regulations, accreditation and permitting requirements.



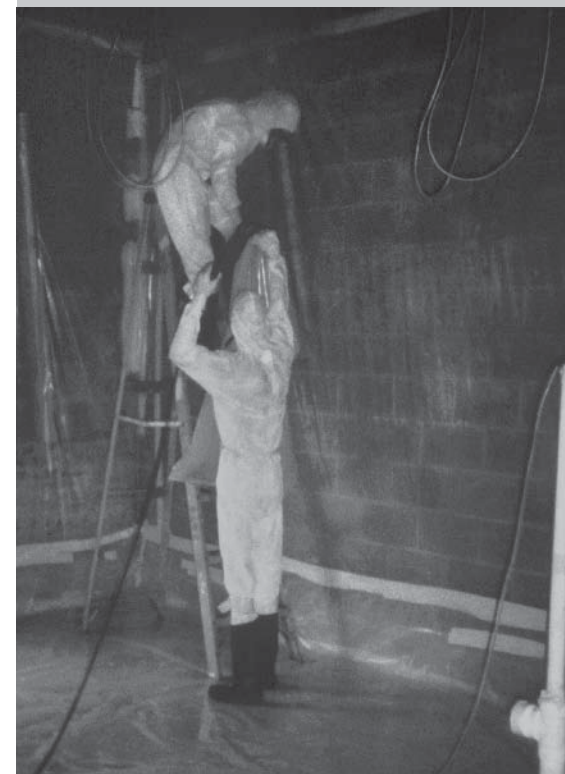
www.scdhec.gov

*We promote and protect the health of the public
and the environment.*

ML-025415 7/09

Renovation, Demolition & Asbestos

What Building Owners & Contractors Should Know



S.C. Department of Health and
Environmental Control

Asbestos Section
803-898-4289

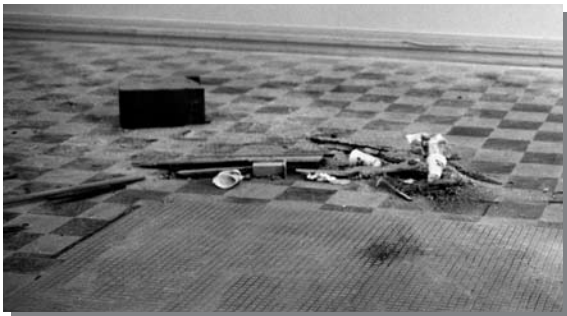
What is Asbestos?

Asbestos is the common name for a group of naturally occurring minerals made up of long, thin fibers. Asbestos is very strong and resistant to stress or forces that might tear it apart. It's also heat resistant. Asbestos fibers can be toxic to humans if inhaled. Despite this, it can still be found in a number of building products, including:

- Heating system insulation
- Spray-applied insulation
- Vinyl floor tiles
- Vinyl sheet flooring
- Ceiling tiles
- Roofing paper and shingles
- Cement siding shingles
- Plaster and joint compound

***It is still possible to purchase new products that contain asbestos. ***

When materials that contain asbestos are disturbed during renovations or demolitions, people nearby may get the dangerous fibers in their lungs. So before beginning a building project that could disturb asbestos-containing materials, property owners need to know how to spot asbestos and ensure the safety of those working nearby.



Frequently Asked Questions

Q. What is demolition?

A. Demolition is the wrecking or removal of a regulated facility/structure's load-bearing structure(s). It also refers to related handling operations, the burning of a regulated facility, or moving of a regulated structure.

Q. What is renovation?

A. It's altering all or part of a regulated facility/structure in any way (except demolition). Stripping or removing regulated asbestos-containing materials (RACM) from a regulated facility/structure is considered renovation.



Q. What is a regulated facility?

- A.
- Any institutional, commercial, public, industrial, or residential structure, installation, or building (including condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units);
 - any bridge;
 - any ship;
 - any active or inactive waste disposal site; and

- any structure, installation or building that was previously subject to this requirement, regardless of its current use or function.

Note: Under this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building.

Q. Do asbestos regulations require me to have my property inspected for asbestos?

A. S.C. DHEC Regulation 61-86.1 states that prior to any demolition or renovation at a regulated facility, a thorough inspection must be done to detect any asbestos-containing materials. The inspection must be carried out by a person licensed by DHEC's Asbestos Section as an asbestos building inspector.

If asbestos is found in an area that will be disturbed during renovation or repair work, it must be removed properly and disposed of at an approved landfill. DHEC's Asbestos Section keeps a list of South Carolina landfills that accept asbestos. These actions also must occur prior to any building demolition project. In most cases, asbestos removal and disposal activities must be performed by a licensed asbestos abatement contractor.

Q. Am I required to submit notification of all *demolition* projects?

A. Each owner/operator must notify DHEC's Asbestos Section in writing before beginning any demolition of a regulated facility/structure regardless of the amount of asbestos present (and even when no asbestos is present).

APPENDIX F

Photos



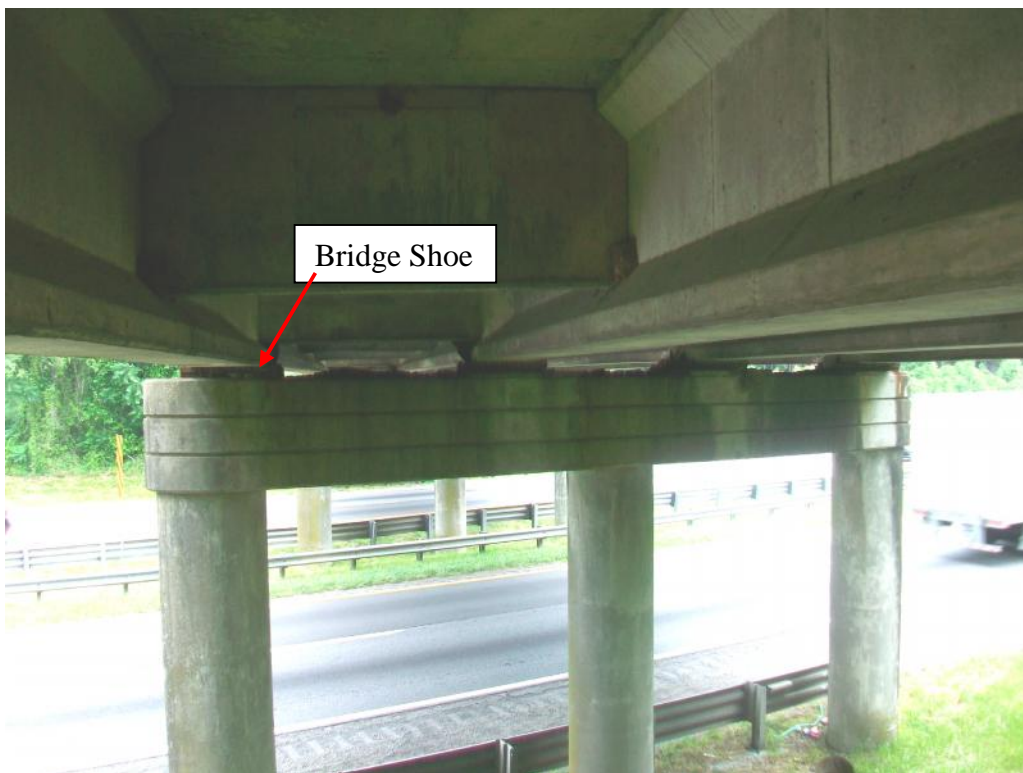
Photograph 1 – Side view of S-36-39 bridge over I-26.



Photograph 2 – Top view of the S-36-39 bridge over I-26.



Photograph 3 – Typical view of asbestos containing transite drain pipe located on the bridge structure.



Photograph 4 – View of the underside of the bridge. All metal bridge components, except for the galvanized metal guardrails are coated with lead based paint.