ASBESTOS & LEAD-BASED PAINT ASSESSMENT REPORT
I-85 Widening MM80-96
S-11-82 BRIDGE OVER I-85
STRUCTURE NO. 1170008200100
GAFFNEY, SOUTH CAROLINA

S&ME Project No. 1426-14-161

Prepared for:

Infrastructure Consulting Engineers, PLLC.
1691 Turnbull Avenue
North Charleston, South Carolina 29405

Assessment Performed by and Report Prepared by:

Brian Mulholland — Date: 6/11/2015
(SCDHEC Accreditation #BI-00691)

☐ Yes, Asbestos was found
☒ No, Asbestos was not found

☒ Yes, Lead Paint was found
☐ No, Lead Paint was not found

281 Fairforest Way
Greenville, South Carolina 29607
(864) 574-2360

June 11, 2015

June 11, 2015

Infrastructure Consulting Engineers, PLLC
1691 Turnbull Avenue
North Charleston, South Carolina 29405

Attention: Mr. Thomas Kicklighter, III, P.E.

Reference: **Asbestos and Lead-Based Paint Assessment Report**
S-11-82 Bridge on Pleasant School Road over I-85
Structure No. 1170008200100
Gaffney, South Carolina
S&ME Project No. 1426-14-161

Dear Mr. Kicklighter:

S&ME, Inc. (S&ME) is pleased to provide the enclosed report detailing our asbestos and lead-based paint assessment of the bridge S-11-82 on Pleasant School Road over I-85 in Gaffney, South Carolina. The work was performed in general accordance with the Sub-consultant Agreement for Professional Services between S&ME, Inc. and Infrastructure Consulting Engineers, PLLC dated January 23, 2015. The report includes the executive summary, project background, assessment procedures, findings and results, conclusions and recommendations regarding asbestos-containing materials and lead-based paint coatings.

This report is provided for the use of Infrastructure Consulting Engineers, PLLC and South Carolina Department of Transportation. Use of this report by any other parties will be at such party's sole risk and S&ME, Inc. disclaims liability for any such use or reliance by additional parties. The results presented in this report are indicative of conditions only during the time of the inspection and of the specific areas referenced.

We appreciate the opportunity to provide Infrastructure Consulting Engineers, PLLC and South Carolina Department of Transportation with our asbestos and lead-based paint services, and we look forward to our continued association. If you have any questions concerning this report, please do not hesitate to call us at (864) 574-2360.

Sincerely,

S&ME, Inc.

Brian Mulholland
Industrial Hygiene Project Manager
bmulholland@smeinc.com

Sherman Woodson, CIH, CSP
Senior Industrial Hygienist
swoodson@smeinc.com

BM/SW *c:\users\bmulholland\desktop\projects\1426-14-161 i-85 widening bridges\asbestos\asbestos\report\s-11-82 pleasant school rd\abestos report s-11-82 pleasant school road.docx*

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EXECUTIVE SUMMARY

S&ME performed an asbestos and lead-based paint assessment of the S-11-82 Bridge on Pleasant School Road over I-85 in Gaffney, South Carolina (Figures 1). The bridge is identified as structure number 1170008200100. The purpose of the assessment was to identify asbestos-containing materials (ACMs) and lead-based paint coatings prior to renovation actions.

The bridge consists of a two-lane roadway over a concrete deck resting on concrete piers.

Asbestos

Suspect ACMs observed, sampled and analyzed as part of this assessment included tar expansion material and bearing pad material. Non-suspect materials observed that were not sampled consisted of metal, asphalt and concrete. The Environmental Protection Agency (EPA) and South Carolina Department of Health & Environmental Control (SCDHEC) define materials as asbestos-containing if an asbestos content greater than one percent (>1%) is detected in a representative sample. Asbestos in concentrations greater than one percent was **not** identified during this assessment.

Lead-Based Paint

The bridge components and associated asphalt pavements contain several visible suspect coatings:

- White painted side stripe
- Yellow painted center side stripe,
- Yellow painted caution chevron on pier, and
- Black painted caution chevron on pier.

For the purpose of this assessment, painted surfaces exceeding the SCDHEC disposal limit of 0.7 mg/cm^2 are considered lead-based paint. Lead in concentrations applicable to SCDHEC and EPA disposal regulations were identified in the **yellow painted caution chevrons on piers**.

OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. The current OSHA regulations recognize an airborne action level of thirty micrograms of lead per cubic meter of air (30 $\mu g/m^3$) during an eight-hour day and a permissible exposure level of fifty micrograms per cubic meter (50 $\mu g/m^3$). XRF testing data is included in Appendix D.

1. BACKGROUND

S&ME was contracted to perform an asbestos and lead-based paint assessment of the S-11-82 Bridge on Pleasant School Road over I-85 in Gaffney, South Carolina. The bridge is identified as structure number 1170008200100. The work was requested and authorized by Infrastructure Consulting Engineers, PLLC. We understand that the bridge is scheduled for demolition. The asbestos and lead-based paint assessment was performed on May 14, 2015.

The bridge consists of a two-lane roadway over concrete decking. The bridge consists of concrete decking resting on concrete piers with bearing pads. The bridge is approximately 225 feet long and 30 feet wide. The bridge is shown in Photographs 1 through 6 in Appendix B.

The identification of ACMs will aid in the prevention of occupational exposures and/or environmental releases of airborne asbestos during destructive activities. Identification of ACMs also complies with Title 40 Code of the Federal Regulations, part 61, and State regulation 61-86.1 enforced by the SCDHEC, along with Title 29 Code of Federal Regulations, part 1926 enforced by OSHA. The following report describes the assessment procedures used and conclusions and recommendations regarding the subject structures as related to ACMs.

The lead-based paint assessment was performed to identify existing lead-based paint finishes associated with the subject structures. The identification of these materials will aid in the prevention of occupational exposure (OSHA) and/or environmental releases of airborne lead dust in accordance with 29 CFR 1926.62 (Lead in Construction) and provide information to facilitate proper disposal of lead-based paint waste in accordance with the SCDHEC and EPA during destructive activities.

2. ASBESTOS ASSESSMENT

2.1 Assessment Procedures

The assessment was performed by observing and sampling suspect asbestos-containing materials. Significant destructive testing was not performed; therefore the possibility exists that suspect asbestos-containing materials may be present in inaccessible areas. If additional suspect materials are discovered during the planned renovation activities, destructive actions to the suspect ACM should not proceed until bulk samples are collected and analyzed for asbestos content.

A sampling strategy was developed to provide representative samples of suspect asbestos-containing materials in accordance with OSHA, SCDHEC and EPA. Bulk samples were then extracted from suspect ACMs and recorded on a chain of custody record and submitted to *S&ME's* asbestos laboratory in Charlotte, North Carolina for analysis via the following methods:

Polarized Light Microscopy (PLM)
The suspect materials were analyzed by trained microscopists using PLM techniques coupled with dispersion staining in accordance with EPA Test Method Title 40 Code of Federal Regulations, Chapter I (1-1-87 edition), Part 763, Subpart F-APPENDIX A. This method identifies asbestos mineral fibers based on six optical characteristics: morphology, birefringence, refractive index, extinction angle, sign of elongation and dispersion staining colors. The laboratory analysis reports the specific type of asbestos identified (there are six asbestos minerals) and the percentage of asbestos present. The bulk samples were submitted through chain-of-custody procedures to CEI's asbestos laboratory in Cary, North Carolina for analysis of asbestos type and content. CEI is accredited by the National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP).

Transmission Electron Microscopy (TEM)
In accordance with SCDHEC Regulation 61-86.1, Transmission Electron Microscopy (TEM) confirmation analysis is required to be performed on one sample of any non-friable organically bound material (NOB) that tests negative via PLM analysis. The TEM analysis was performed by CEI's asbestos laboratory in Cary, North Carolina using EPA 600 Method in accordance with ASTM E2356.

2.2 Findings and Results

The asbestos survey conducted on May 14, 2015 included the quantification and random bulk sampling of various suspect asbestos-containing materials associated with the bridge structure. The suspect material consists of tar expansion material located on the bridge deck and bearing pad material located between concrete bents. The EPA and SCDHEC define materials as asbestos-containing if an asbestos content >1% is detected in a representative sample. In accordance with SCDHEC Regulation 61-86.1, TEM analysis was performed on one sample of each of the following non-friable, organically-bound

(NOB) materials from each bridge that displayed a result of no asbestos detected via PLM analysis:

- Tar expansion material, and
- Asphalt expansion material.

The TEM analyses confirmed that asbestos is not present in concentrations > 1% .

Of the representative materials sampled and analyzed during this assessment, asbestos in concentrations >1% was **not** identified.

The following table summarizes the sample number, location, type of material tested, approximate quantity of the material sampled, condition of the material, and corresponding result for each sample.

A copy of the inspector's SCDHEC license is provided in Appendix A. Figures and Photographs are provided in Appendix B.

TABLE I: SUMMARY OF ASBESTOS BULK SAMPLE ANALYSIS

Sample Number	Location	Material	[2]Approx. Quantity	Asbestos Type	[1]Percent	Condition	Potential for Disturbance	Hazard Assessment
S-11-82 Bridge on Pleasant School Road over I-85								
A-1	North Bound, south end	Tar expansion material	100 LF	NAD	NA	NA	NA	NA
A-2	North Bound, center of bridge			NAD	NA	NA	NA	NA
A-3 *(TEM)*	North Bound, north end			NAD	NA	NA	NA	NA
B-1	North Bound, north end	Bearing pad material	80 SF	NAD	NA	NA	NA	NA
B-2	North Bound, center of bridge			NAD	NA	NA	NA	NA
B-3 *(TEM)*	South Bound, north end			NAD	NA	NA	NA	NA

NAD = No Asbestos Detected NA = Not Applicable SF = square feet

[1]The EPA, SCDHEC and OSHA defines a material as asbestos containing if an asbestos content greater than one percent (>1%) is detected in a representative sample.
[2]The quantities are estimated, and should not be used for bidding purposes, as field conditions should be verified

3. LEAD-BASED PAINT ASSESSMENT

3.1 Assessment Procedures

Lead content in suspect paint coatings wase measured with a RMD-1 X-Ray Fluorescence (XRF) spectrum analyzer. Suspect painted finishes are selected based on the color of the topcoat and the underlying paint layers and/or the substrate on which it was applied. The possibility exists that lead-based paint finishes are present in inaccessible areas.

SCDHEC defines lead-based paint as any paint containing lead at concentrations of 0.7 milligrams per square centimeter (0.7 mg/cm^2) or greater by XRF testing. For the purpose of this assessment, paint containing 0.7 mg/cm^2 or greater is considered a lead-based paint finish. Components painted with lead-based paint ($\geq$ 0.7 mg/cm^2) must be disposed in a permitted Class Two (C&D) or Class Three Subtitle D, Municipal Solid Waste (MSW) landfill.

OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. The current OSHA regulations recognize an airborne action level of thirty micrograms per cubic meter (30 $\mu g/m^3$) during an eight-hour day and a permissible exposure limit of fifty micrograms per cubic meter (50 $\mu g/m^3$).

3.2 Findings and Results

The bridge components and associated asphalt pavements contain several visible suspect coatings:

- White painted side stripe
- Yellow painted center side stripe,
- Yellow painted caution chevron on pier, and
- Black painted caution chevron on pier.

For the purpose of this assessment, painted surfaces exceeding the SCDHEC disposal limit of 0.7 mg/cm^2 are considered lead-based paint. Lead in concentrations applicable to SCDHEC disposal regulations were identified in the **yellow painted caution chevrons on piers**. Disturbance of these materials is regulated by the OSHA regulation 29 CFR 1926.62 (Lead in Construction). XRF testing data is included in Appendix D.

4. CONCLUSIONS AND RECOMMENDATIONS

Asbestos

The asbestos assessment conducted on the S-11-82 Bridge on Pleasant School Road over I-85 in Gaffney, South Carolina, **did not** identify asbestos-containing materials. If additional suspect materials are discovered during the planned renovation activities, bulk samples must be collected and analyzed for asbestos content prior to continuation of work. A copy of this report should be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations.

Lead-Based Paint

The **yellow painted caution chevrons on piers** were identified as containing lead levels exceeding the SCDHEC disposal limit of 0.7 mg/cm^2. Destructive actions (sanding, burning, demolition, component removal, paint preparation) to the lead-containing paint surfaces will require the contractor to comply with the standards of SCDHEC and OSHA, including but not limited to proper disposal, initial exposure monitoring, the use of personal protective equipment, and medical surveillance. If additional painted components are discovered during renovation activities, the paint should be tested prior to any destructive actions (sanding, burning, demolition, component removal, paint preparation) or disposal.

SCDHEC Regulation 61-107.19 permits demolition materials painted with lead-based paint (≥ 0.7 mg/cm^2) to be disposed in a permitted Class Two (C&D) or Class Three Subtitle D, Municipal Solid Waste (MSW) landfill. However, accumulations of paint waste (chips, dust, or flakes) from the identified areas of lead-based paint may be classified as hazardous waste, which requires disposal in a Subtitle C (hazardous waste) landfill. The hazardous waste regulations include Title 40 Code of Federal Regulations parts 260 through 272. A sample of accumulated paint waste should be collected for analysis via Toxicity Characteristic Leaching Procedure (TCLP) to determine the waste's lead content and hazardous waste characteristics.

APPENDIX A

COPY OF SCDHEC INSPECTOR LICENSE

S&ME

SCDHEC ISSUED
Asbestos ID Card

Brian J Mulholland

		Expires
CONSULTBI	BI-00691	12/03/15
SUPERAHERA	SA-00821	12/04/15
AIRSAMPLER	AS-00074	12/03/15

S&ME, INC. / 301 Zima Park Drive / Spartanburg, SC 29301 / *p* 864.574.2360 *f* 864.576.8730
281 Fairforest Way / Greenville, SC 29607 / *p* 864.297.9944 / www.smeinc.com

APPENDIX B

FIGURES AND PHOTOGRAPHS

SCALE:	NTS
CHECKED BY:	SW
DRAWN BY:	BJM
DATE:	5/14/2015

S&ME

S-11-82 Bridge on Pleasant School Rd.
I-85 Widening MM80-96 Haz Mat
Gaffney, South Carolina
S&ME Proj. No. 1426-14-161

FIGURE NO.
1

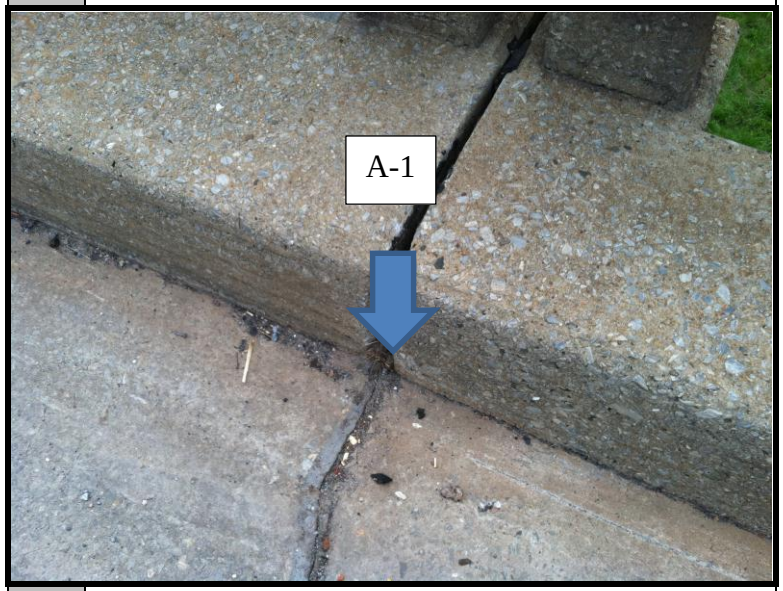
Legend

A-1 Sample location

SCALE:	NTS	S&ME	S-11-82 Bridge on Pleasant School Bridge Rd. I-85 Widening MM80-96 Haz Mat Gaffney, South Carolina Project Number : 1426-14-161	FIGURE NO. 2
CHECKED BY:	SW			
DRAWN BY:	BJM			
DATE:	5/14/2015			

1	Bridge S-11-82 on Pleasant School Road over I-85 General view from I-85

2	General view top deck Center line and lane boundary lines observed.



3	Tar expansion material located on top deck expansion joints Sample A -

4	End abutment bearing pad Sample B -

S&ME	**I-85 Widening – S–11-82 Pleasant School Road Gaffney, South Carolina**	S&ME Project # 1426-14-161
		Taken by: B .Mulholland / Date Taken: 5/15/2015

5	General view of bearing pads.

6	Lead sample from caution chevron on piers.

No Photo

7	

No Photo

8	

S&ME	**I-85 Widening – S–11-82 Pleasant School Road Gaffney, South Carolina**	S&ME Project # 1426-14-161	
		Taken by: B .Mulholland	Date Taken: 5/15/2015

APPENDIX C

ASBESTOS BULK SAMPLE ANALYSIS SHEETS AND CHAIN OF CUSTODY RECORDS

May 21, 2015

S&ME
281 Fairforest Way
Greenville, SC 29607

CLIENT PROJECT: S 82; 1426-14-161
CEI LAB CODE: A15-4188

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on May 18, 2015. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP Lab Code 101768-0

ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

S&ME

CLIENT PROJECT: S 82; 1426-14-161

CEI LAB CODE: A15-4188

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 05/21/15

TOTAL SAMPLES ANALYZED: 4

SAMPLES >1% ASBESTOS:

TEL: 866-481-1412

www.ceilabs.com

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: S 82; 1426-14-161

CEI LAB CODE: A15-4188

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
A-1		A1971991	Black	Tar Expansion Material	None Detected
A-2		A1971992	Black	Tar Expansion Material	None Detected
A-3		A1971993		Sample Submitted for TEM Analysis	
B-1		A1971994	Orange,Tan	Bearing Pad	None Detected
B-2		A1971995	Orange,Tan	Bearing Pad	None Detected
B-3		A1971996		Sample Submitted for TEM Analysis	

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: S&ME
281 Fairforest Way
Greenville, SC 29607

CEI Lab Code: A15-4188
Date Received: 05-18-15
Date Analyzed: 05-21-15
Date Reported: 05-21-15

Project: S 82; 1426-14-161

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
A-1 A1971991	Tar Expansion Material	Heterogeneous Black Non-fibrous Bound			90% 10%	Tar Binder	**None Detected**
A-2 A1971992	Tar Expansion Material	Heterogeneous Black Non-fibrous Bound			90% 10%	Tar Binder	**None Detected**
A-3 A1971993	Sample Submitted for TEM Analysis						
B-1 A1971994	Bearing Pad	Heterogeneous Orange,Tan Fibrous Bound	70%	Cellulose	15% 15%	Paint Binder	**None Detected**
B-2 A1971995	Bearing Pad	Heterogeneous Orange,Tan Fibrous Bound	70%	Cellulose	15% 15%	Paint Binder	**None Detected**
B-3 A1971996	Sample Submitted for TEM Analysis						

LEGEND:	Non-Anth	= Non-Asbestiform Anthophyllite
	Non-Trem	= Non-Asbestiform Tremolite
	Calc Carb	= Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

LIMIT OF DETECTION: <1% by visual estimation

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation.

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by CEI Labs, Inc. CEI Labs makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

ANALYST: Megan Fisher

APPROVED BY: Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP Lab Code 101768-0

A15-4188

ASBESTOS A1971991-(6)
CHAIN OF CUSTODY A1971996

107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:26429	Job Contact: Brian Mulholland
Company:S&ME	Email / Tel: bmulholland@smeinc.com
Address:281 Fairforest Way	Project Name: S(82
Greenville, SC 29607	Project ID# 1426-14-161
Email:bmulholland@smeinc.com	PO #: 1426-14-161
Tel:(864) 297-9944 Fax:	STATE SAMPLES COLLECTED IN: SC

GENERAL INSTRUCTIONS			
POSITIVE STOP ANALYSIS	x	BEGIN TEM ANALYSIS AFTER NEGATIVE PLM	x
ANALYZE NOB'S BY TEM	x	ANALYZE TEM SAMPLES SIMULTANEOUSLY WITH PLM	

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600					x	
PLM POINT COUNT (400)	EPA 600						
PLM POINT COUNT (1000)	EPA 600						
PLM GRAV w POINT COUNT	EPA 600						
PCM AIR	NIOSH 7400						
TEM AIR AHERA	EPA AHERA						
TEM AIR NIOSH	NIOSH 7402						
TEM BULK	CHATFIELD					x	
TEM DUST WIPE	ASTM D6480-05						
TEM DUST MICROVAC	ASTM D5755-09						
TEM SOIL	ASTM D7521-13						
TEM VERMICULITE	CINCINNATI METHOD						
OTHER:							

REMARKS:

☑ Accept Samples

☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
Brian Mulholland	5/15/2015, 1:54 PM		5·18·15 8:40

Samples will be disposed of 30 days after analysis

A15-4188

ASBESTOS SAMPLING FORM

CEI LABS

COMPANY CONTACT INFORMATION			
Company:	S&ME Inc. - Greenville	Job Contact:	Brian Mulholland
Project Name:	SC 82		
Project ID #:	1426-14-161	Tel:	(864) 297-9944

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST			
A-1	Tar expansion material		PLM	x	TEM	
A-2			PLM	x	TEM	
A-3			PLM		TEM	x
B-1	Bearing pad		PLM	x	TEM	
B-2			PLM	x	TEM	
B-3			PLM		TEM	x
			PLM		TEM	
			PLM		TEM	
			PLM		TEM	
			PLM		TEM	
			PLM		TEM	
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			PLM		TEM	
			PLM		TEM	

May 26, 2015

S&ME
281 Fairforest Way
Greenville, SC 29607

CLIENT PROJECT: S 82; 1426-14-161
CEI LAB CODE: T15-0841

Dear Customer:

Enclosed are asbestos analysis results for TEM bulk samples received at our laboratory on May 21, 2015. The samples were analyzed for asbestos using transmission electron microscopy (TEM) per Chatfield Method.

Sample results containing > 1% asbestos are considered asbestos-containing materials (ACMs) per the EPA regulatory requirements. The detection limit for the TEM Chatfield method is <1% depending on the processed weight and constituents of the sample.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

Tianbao Bai, Ph.D., CIH
Laboratory Director

ASBESTOS ANALYTICAL REPORT
By: Transmission Electron Microscopy

Prepared for

S&ME

CLIENT PROJECT: S 82; 1426-14-161

CEI LAB CODE: T15-0841

TEST METHOD: Bulk Chatfield
EPA 600 / R93 / 116

REPORT DATE: 05/26/15

TEL: 866-481-1412

www.ceilabs.com

ASBESTOS BULK ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

Client: S&ME
281 Fairforest Way
Greenville, SC 29607

Project: S 82; 1426-14-161

CEI Lab Code: T15-0841
Date Received: 05-21-15
Date Analyzed: 05-22-15
Date Reported: 05-26-15

TEM BULK CHATFIELD / EPA 600 / R93 / 116

Client ID Lab ID	Material Description	Sample Weight (g)	Organic Material %	Acid Soluble Material %	Acid Insoluble Material %	Asbestos %
A-3 T38574	Tar Expansion Material	0.4852	94.2	2.9	2.9	**None Detected**
B-3 T38575	Bearing Pad	0.4783	37.3	2.5	60.2	**None Detected**

LEGEND: None

METHOD: CHATFIELD & EPA/600/R-93/116

LIMIT OF DETECTION: Varies with the weight and constituents of the sample (<1%)

REGULATORY LIMIT: >1% by weight

ANALYST: Diana Sedito

Diana Sedito

APPROVED BY:

Tianbao Bai, Ph.D., CIH
Laboratory Director

AIS-4188

ASBESTOS CHAIN OF CUSTODY A1971991-(6) A1971996

CEI LABS
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:	
CEI Lab Code:	TS-0841
CEI Lab I.D. Range:	T38574-575

COMPANY INFORMATION		PROJECT INFORMATION	
CEI CLIENT #:26429		Job Contact:	Brian Mulholland
Company:S&ME		Email / Tel:	bmulholland@smeinc.com
Address:281 Fairforest Way		Project Name:	SC-82
Greenville, SC 29607		Project ID#	1426-14-161
Email:bmulholland@smeinc.com		PO #:	1426-14-161
Tel:(864) 297-9944	Fax:	STATE SAMPLES COLLECTED IN:	SC

GENERAL INSTRUCTIONS			
POSITIVE STOP ANALYSIS	x	BEGIN TEM ANALYSIS AFTER NEGATIVE PLM	x
ANALYZE NOB'S BY TEM	x	ANALYZE TEM SAMPLES SIMULTANEOUSLY WITH PLM	

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600					x	
PLM POINT COUNT (400)	EPA 600						
PLM POINT COUNT (1000)	EPA 600						
PLM GRAV w POINT COUNT	EPA 600						
PCM AIR	NIOSH 7400						
TEM AIR AHERA	EPA AHERA						
TEM AIR NIOSH	NIOSH 7402						
TEM BULK	CHATFIELD					x	
TEM DUST WIPE	ASTM D6480-05						
TEM DUST MICROVAC	ASTM D5755-09						
TEM SOIL	ASTM D7521-13						
TEM VERMICULITE	CINCINNATI METHOD						
OTHER:							

REMARKS:	☑ Accept Samples ☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
Brian Mulholland	5/15/2015, 1:54 PM		5.18.15 8:40
	5/21/15 9.05		5/21 1619 AS

Samples will be disposed of 30 days after analysis

A15-4188

ASBESTOS SAMPLING FORM

CEI LABS

0841

COMPANY CONTACT INFORMATION			
Company:	S&ME Inc. - Greenville	Job Contact:	Brian Mulholland
Project Name:	SC 82		
Project ID #:	1426-14-161	Tel:	(864) 297-9944

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST			
A-1	Tar expansion material		PLM	x	TEM	
A-2			PLM	x	TEM	
A-3			PLM		TEM	x
B-1	Bearing pad		PLM	x	TEM	
B-2			PLM	x	TEM	
B-3			PLM		TEM	x
			PLM		TEM	
			PLM		TEM	
			PLM		TEM	
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APPENDIX D

SUMMARY OF XRF LEAD SPECTRUM ANALYZER READINGS

TABLE 2
SUMMARY OF PAINT RESULTS

I-85 Widening - S-11-82 Pleasant School Road
Gaffney, South Carolina
S&ME Project No. 1426-14-161

Number	Location	Substrate	Structure	Feature	Color	Lead (mg/cm^2)
	Calibration					1.0
	Calibration					0.9
	Calibration					1.0
1	Bridge deck	Asphalt	Lane boundary line	Road edge	White	<0.1
2	Bridge deck	Asphalt	Center lane line	Lane divide	Yellow	0.2
3	Pier support	Concrete	Pier	Chevron	Black	<0.1
4	**Pier support**	**Concrete**	**Pier**	**Chevron**	**Yellow**	**3.5**
	Calibration					1.0
	Calibration					1.0
	Calibration					1.1