



ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

SC 83 BRIDGE OVER LITTLE PEE DEE RIVER
MARLBORO COUNTY, SOUTH CAROLINA
PROJECT ID P042879

PREPARED FOR:



c/o Mr. Trapp Harris, PE
SCDOT
955 Park Street
Columbia, SC 29201

PREPARED BY:

F&ME Consultants, Inc.
211 Business Park Blvd
Columbia, South Carolina 29203

February 25, 2025

☐ ACM was found.
☒ ACM was not found.

F&ME Project No.: G7100.010

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1 EXECUTIVE SUMMARY

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

F&ME Consultants, Inc. (FME) has completed an Asbestos Containing Material (ACM) Investigation of the SC 83 Bridge over the Little Pee Dee River (Bridge) in Marlboro County, South Carolina at the request of the South Carolina Department of Transportation (SCDOT) (Client). The field investigation was performed on February 14, 2025, in anticipation of an on-alignment replacement of the existing Bridge. This investigation was also conducted pursuant to the South Carolina Department of Environmental Services (SCDES), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed-upon scope of work, FME performed this investigation to identify ACM that might be encountered during the demolition activities associated with the existing Bridge and to provide recommendations regarding proper handling and disposal of ACM found. The investigation of the Bridge identified three (3) suspect materials: expansion joint material, timber pile cap felt, and cementitious bond break material. During the field investigation, FME personnel collected samples of these materials and assessed their physical conditions. **Laboratory results indicated that the suspect materials sampled during this investigation contained no asbestos.** Therefore, at this time, no special handling or disposal requirements are required regarding ACM. However, during the course of demolition activities, previously concealed ACM might be discovered. If suspect ACM (i.e., expansion joint material) is found, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/Asbestos Consultant for an appropriate response action. The SCDES must be notified if any suspect ACM is discovered.

It should be noted that TEM analysis of the expansion joint material, sample 1-3, returned <0.37% asbestos. SCDES considers a material that is <1.0% to be negative (Non-ACM). However, OSHA considers a suspect material to be positive if any asbestos is found in the sample. Therefore, for the purposes of this report, this material is to be considered non-ACM material.

We sincerely appreciate the opportunity to assist you with this project. Should you have any questions or require additional information concerning this Investigation, please do not hesitate to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



James T. Timmons

Environmental Professional

Asbestos Inspector

SCDES License No: MP-00196

Expiration Date 01/23/2026



Glynn M. Ellen

Environmental Department Manager

Asbestos Consultant/ Management Planner

SCDES License No: ASB-22641

Expiration Date 01/23/2026

2 INTRODUCTION

FME has completed an ACM investigation of the SC 83 Bridge over the Little Pee Dee River, in Marlboro County, South Carolina. The investigation was performed on February 14, 2025. This investigation was conducted pursuant to SCDES, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge.

It is our understanding that the proposed project will include the complete demolition and removal of the existing Bridge and the replacement of a new bridge along the existing alignment. The purpose of this investigation was to determine if asbestos was present on the existing Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

3 EXISTING BRIDGE STRUCTURE

The existing Bridge ($\approx 252'$ L x $23'$ W, inside curb to inside curb) is located on SC 83 and crosses over Little Pee Dee River in Marlboro County, South Carolina. The construction date of the Bridge is unknown. The structure is a two (2) lane, ten (10) span Bridge constructed with a poured-in-place (PIP) concrete bridge deck and concrete curbing/guardrails. The Bridge deck is supported by five (5) horizontal structural steel I-beams. Each timber bent cap is supported by five (5) structural timber piles. Metal drainage scuppers were noted along each side of the Bridge. Each end bent is covered by a combination of soil and rip rap. A utility conduit was attached to the underside of the Bridge on the southeastern side and ran its entire length. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge and Appendix B, General Bridge Plan, for a layout of the Bridge.



Photo 1: SC 83 Bridge over Little Pee Dee River in Marlboro County, South Carolina.

4 FIELD ASSESSMENT

During the investigation, accessible bridge components (i.e., bent caps, timber piles, scuppers, expansion joints, etc.) were visually inspected for suspect ACM. Examples of possible suspect materials include bond break bearing pads, expansion joint material, and drainage scuppers. Three (3) suspect materials were observed/visible on the Bridge. The suspect materials noted on the Bridge were an expansion joint material, timber pile cap felt, and a cementitious bond break material. Samples of these materials were taken from random locations on the Bridge. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, refer to Appendix G, Site Photographs, for more details.

5 ASSESSMENT RESULTS

During the investigation, the expansion joint material, timber pile cap felt, and cementitious bond break material were the suspect materials identified associated with the Bridge. A total of three (3) random samples were taken of each of the suspect materials for laboratory analysis and physical characteristics were recorded. The remaining structural materials (i.e., wood, steel, etc.) were not considered suspect and were not sampled.

Bulk samples of suspect materials were analyzed by Polarized Light Microscopy (PLM) in accordance with USEPA 600/R-93/116. Confirmation Transmission Electron Microscopy (TEM) was also performed on any non-friable organically bound materials that tested negative for asbestos content as per SCDES regulations effective May 27, 2011. A *“first positive stop”* protocol was implemented for sample testing. This protocol establishes that if the first sample of a material tested positive for asbestos content, subsequent samples were not to be analyzed and would be considered positive as well. A total of seven (7) samples were analyzed by PLM and two (2) samples were TEM-confirmed. **The results of the analysis indicated that none of the suspect materials sampled during this investigation contained asbestos.** Results of laboratory analysis are summarized in Appendix C, Summary of Sample Results.

It should be noted that TEM analysis of the expansion joint material, sample 1-3, returned <0.37% asbestos. SCDES considers a material that is <1.0% to be negative (Non-ACM). However, OSHA considers a suspect material to be positive if any asbestos is found in the sample. Therefore, for the purposes of this report, this material is to be considered non-ACM material.

Appropriate sampling and chain-of-custody protocols were followed to ensure proper handling and delivery of samples to the analytical laboratory. Appendix D, Laboratory Analysis Reports and Appendix E, Laboratory Chain of Custody, are provided to show laboratory documentation of the analytical results. Appendix F, Personnel Certification, provides the qualifications for the FME Asbestos Inspectors.

6 RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the Bridge is to be demolished in anticipation of an on-alignment replacement of the existing Bridge structure. **The results of the analysis indicated that the materials sampled during this investigation contained no asbestos.** Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this Bridge.

It should be noted that TEM analysis of the expansion joint material, sample 1-3, returned <0.37% asbestos. SCDES considers a material that is <1.0% to be negative (Non-ACM). However, OSHA considers a suspect material to be positive if any asbestos is found in the sample. Therefore, for the purposes of this report, this material is to be considered non-ACM material.

If any concealed and/or inaccessible suspect ACM (i.e., bearing pads) are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/asbestos Consultant for an appropriate response action. The SCDES must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client and FME. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to SCDOT in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.

APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Location Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

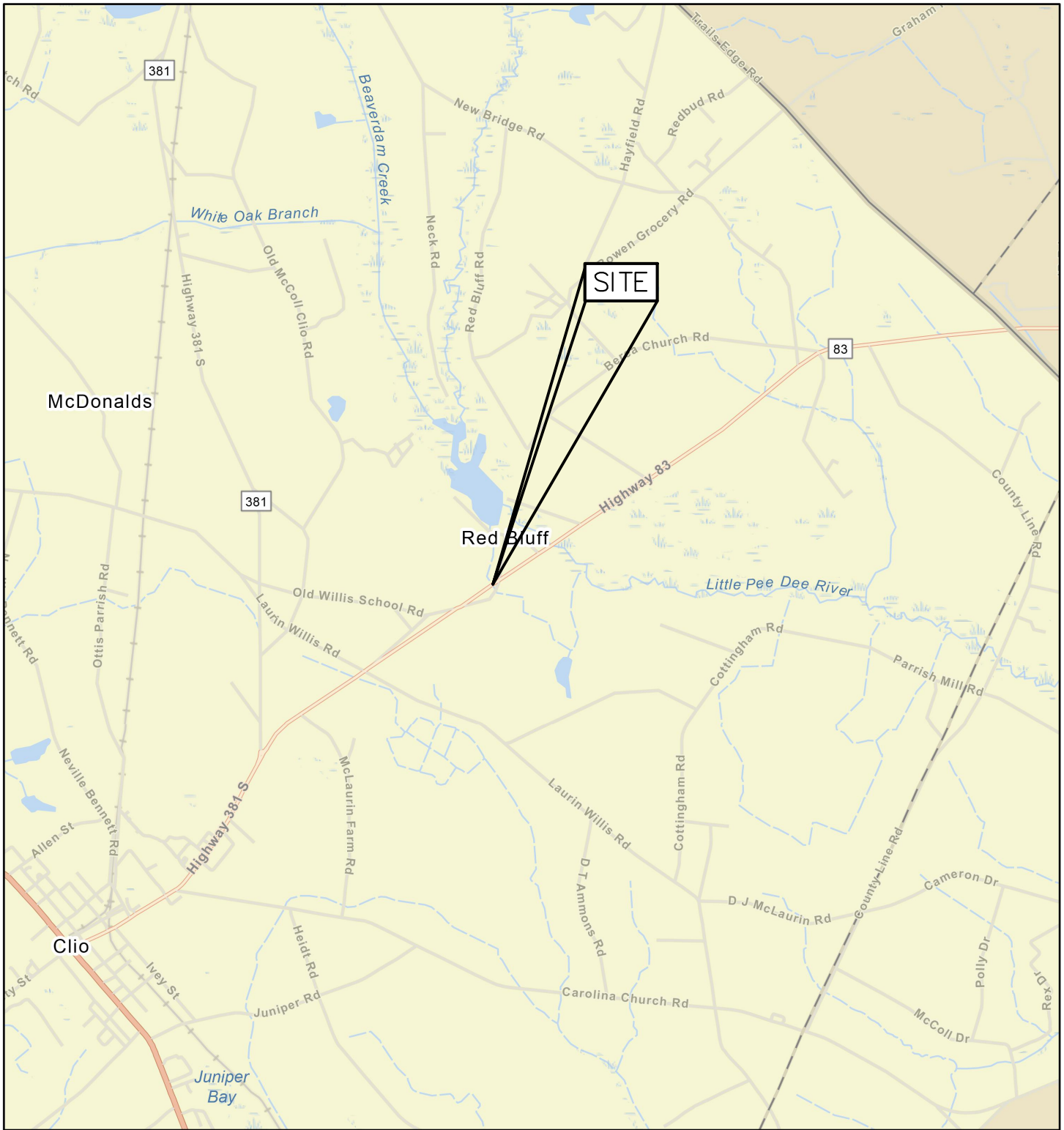
Appendix E – Chain of Custody Form

Appendix F – Personnel Certifications

Appendix G – Site Photographs

Appendix A

Site Vicinity Map



1:58,000

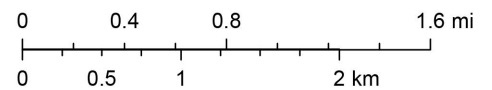


FIGURE
NUMBER:

1

F&ME CONSULTANTS
PROJECT NUMBER:

G67100.010

ASBESTOS CONTAINING MATERIALS INVESTIGATION
SC 83 Bridge over Little Pee Dee River
Marlboro County, SC
Site Vicinity Map
Prepared for: SCDOT
955 Park Street
Columbia, SC 29201



211 BUSINESS PARK BLVD.
COLUMBIA, SC 29203

ORIGINAL:
February 18, 2025

REVISIONS:

1

2

3

SCALE:
AS SHOWN

DRWN. BY: MSM
CHKD. BY: JTT
APPR. BY: GME

NOTES:

Appendix B

Sample Location Plan

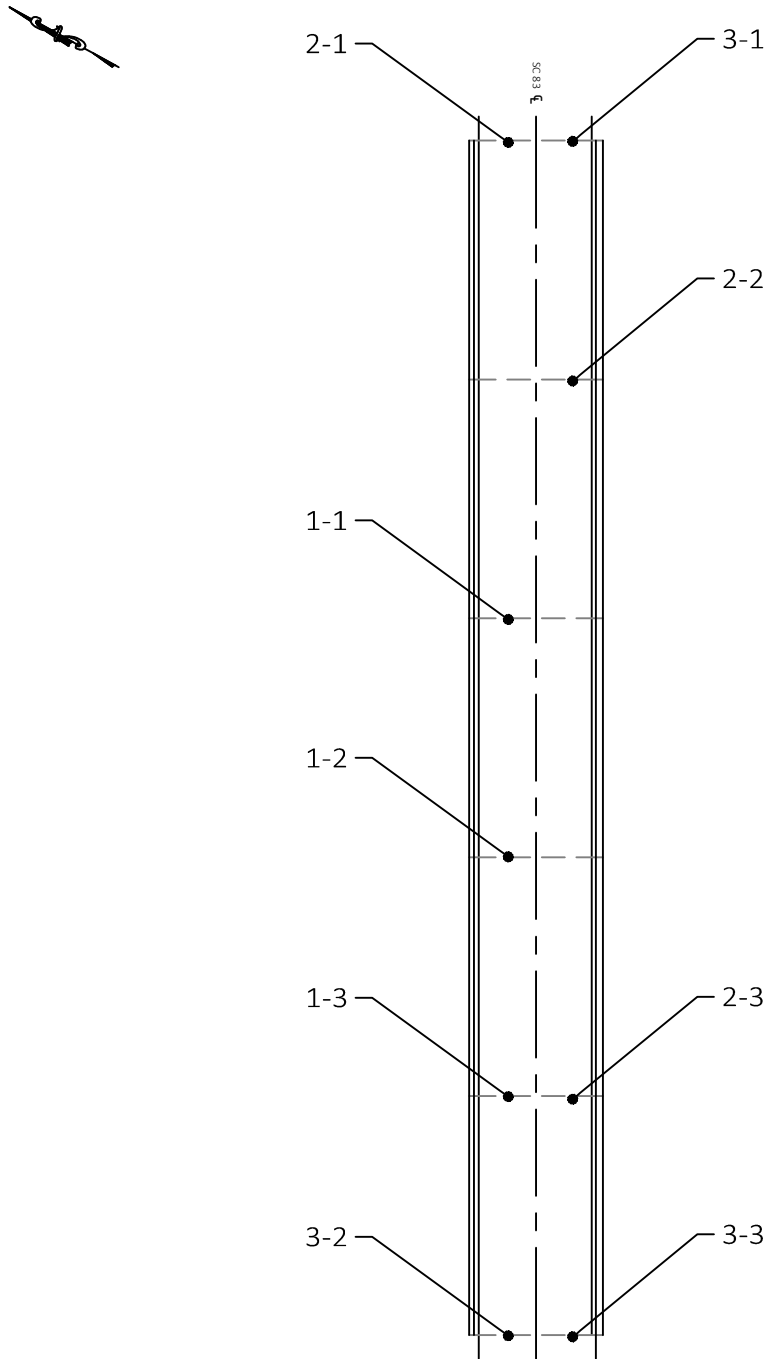


FIGURE
NUMBER:

2

F&ME CONSULTANTS
PROJECT NUMBER:

G7100.010

ASBESTOS CONTAINING MATERIALS INVESTIGATION
SC 83 Bridge over Little Pee Dee River
Marlboro County, SC
Sample Location Plan

Prepared for: SCDOT
955 Park Street
Columbia, SC 29201



211 BUSINESS PARK BLVD.
COLUMBIA, SC 29203

ORIGINAL:
February 18, 2025

REVISIONS:

1 _____
2 _____
3 _____

SCALE:
N.T.S.

DRWN. BY: MSM
CHKD. BY: JTT
APPR. BY: GME

NOTES:

Appendix C

Summary of Samples

Appendix C: Summary of Samples

Sample ID	Description
1-1	Expansion Joint Material
1-2	Expansion Joint Material
1-3	Expansion Joint Material
2-1	Timber Pile Cap Felt
2-2	Timber Pile Cap Felt
2-3	Timber Pile Cap Felt
3-1	Cementitious Bond Break Material
3-2	Cementitious Bond Break Material
3-3	Cementitious Bond Break Material



Appendix D

Laboratory Analysis Reports



EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

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

EMSL Order: 022500796

Customer ID: FMEC62

Customer PO: G7100.010

Project ID:

Attention: Glynn M. Ellen

F & ME Consultants

211 Business Park Blvd

Columbia, SC 29203

Phone: (803) 254-4540

Fax: (803) 254-4542

Received Date: 02/17/2025 8:30 AM

Analysis Date: 02/19/2025

Collected Date:

Project: S 83 RBO Little Pee Dee River

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1-1 022500796-0001	Expansion Joint Material	Black/Green/Orange Fibrous Heterogeneous	5% Cellulose <1% Hair	95% Non-fibrous (Other)	None Detected
1-2 022500796-0002	Expansion Joint Material	Black Fibrous Heterogeneous	15% Cellulose 5% Synthetic	80% Non-fibrous (Other)	None Detected
2-1 022500796-0003	Timber Pile Cap Felt	Brown/Black/Silver Fibrous Heterogeneous	45% Cellulose 1% Synthetic <1% Hair	54% Non-fibrous (Other)	None Detected
2-2 022500796-0004	Timber Pile Cap Felt	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
3-1 022500796-0005	Cementitious Bond Break Material	Brown/Gray/Tan Non-Fibrous Heterogeneous		40% Quartz 5% Ca Carbonate 55% Non-fibrous (Other)	None Detected
3-2 022500796-0006	Cementitious Bond Break Material	Gray/Tan Non-Fibrous Heterogeneous		40% Quartz 5% Ca Carbonate 55% Non-fibrous (Other)	None Detected
3-3 022500796-0007	Cementitious Bond Break Material	Gray Non-Fibrous Heterogeneous		30% Quartz 10% Ca Carbonate 60% Non-fibrous (Other)	None Detected

Analyst(s)

Cameron Evans (3)

Scott Combs (4)

Stephen Bennett, Laboratory 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 method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. 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. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 02/20/2025 08:00:38



EMSL Analytical, Inc.

706 Gralin Street Kenersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

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

EMSL Order: 022500796

Customer ID: FMEC62

Customer PO: G7100.010

Project ID:

Attention: Glynn M. Ellen
F & ME Consultants
211 Business Park Blvd
Columbia, SC 29203

Phone: (803) 254-4540

Fax: (803) 254-4542

Received Date: 02/17/2025 8:30 AM

Analysis Date: 02/19/2025 - 02/20/2025

Collected Date:

Project: S 83 RBO Little Pee Dee River

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
1-3 022500796-0008	Expansion Joint Material	Black/Green/Orange Non-Fibrous Heterogeneous	100.0 Other	None	<0.37% Chrysotile
2-3 022500796-0009	Timber Pile Cap Felt	Brown/Black Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (2)

Stephen Bennett, Laboratory 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. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kenersville, NC

Initial report from: 02/20/2025 08:00:41

Appendix E

Chain of Custody Form

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

022500796

EMSL ANALYTICAL, INC.
706 GRALIN ST.
KERNERSVILLE, NC 27284
PHONE: (336) 992-1025
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Blvd. Columbia, SC		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen, Mike Mincey		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, mmincey@fmeconsultants.com		Purchase Order: G7100.010	
Project Name/Number: SC 83 RBO Little Pee Dee River		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input checked="" 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			
PCM - Air <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <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"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
TEM - Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<1%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep <input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only) Other: <input type="checkbox"/>			
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: John Croom		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*1-1 thru 1-3	Expansion Joint Material		
*2-1 thru 2-3	Timber Pile Cap Felt		
3-1 thru 3-3	Cementitious Bond Break Material		
Client Sample # (s): 1-1 - 3-3		Total # of Samples: 9	
Relinquished (Client):		Date: 2/14/2025	Time: 17:00
Received (Lab): Jens Sweet		Date: 2-18-25 2-17-25	Time: 8:30
Comments/Special Instructions: SC Guidelines; TEM 3 rd Sample			

Appendix F

Personnel Certifications



SCDES ISSUED

Asbestos ID Card



Glynn M Ellen



**AIRSAMPLER
CONSULTMP
CONSULTPD
SUPERAHERA**

**AS-00079
ASB-22641
PD-00098
SA-00455**

Expiration Date:

**01/23/26
01/22/26
08/07/25
01/23/26**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDES. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.

For information of corrections contact:

SCDES - Asbestos Section
2600 Bull Street
Columbia, SC 29201
(803) 898-4289





SCDES ISSUED

Asbestos ID Card



James T Timmons



**AIRSAMPLER
CONSULTMP
SUPERAHERA**

**AS-00423
MP-00196
SA-02244**

Expiration Date:

**01/23/26
01/22/26
01/23/26**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDES. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.

For information of corrections contact

SCDES - Asbestos Section
2600 Bull Street
Columbia, SC 29201
(803) 898-4289



Appendix G

Site Photographs



Photo 1. Top View of Bridge Deck.



Photo 2. Non-ACM Timber Pile Cap Felt.



Photo 3. Non-ACM Cementitious Bond Break Material.



Photo 4. Underside View of Bridge.



Photo 5. Non-ACM Expansion Joint Material.



Photo 6. SCDOT Asset # Placard Attached to the Concrete Guardrail.

