



ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

S-24-166 (TILLMAN TERRITORY RD.) RBO
TRIBUTARY TO HENLEYS CREEK
GREENWOOD COUNTY, SOUTH CAROLINA
PROJECT ID P043994

PREPARED FOR:



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

PREPARED BY:

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

November 1, 2024

ACM was found.

ACM was not found.

F&ME Project No.: G7100.007

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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 S-24-166 (Tillman Territory Rd.) over a tributary to Henleys Creek (Bridge) in Greenwood County, South Carolina at the request of South Carolina Department of Transportation (SCDOT) (Client). The field investigation was performed on October 25, 2024, in anticipation of an on-alignment replacement of the existing Bridge. This investigation was also conducted pursuant to 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 four (4) suspect materials; crack sealant, wood brace coating, timber pile cap felt, and guardrail coating. 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., bond break bearing pad materials) 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.

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



Brianna M. Bailey

Environmental Professional
Asbestos Consultant/Inspector
SCDHEC License No: MP-00325
Expiration Date 03/14/2025



Glynn M. Ellen

Environmental Department Manager
Asbestos Consultant/Management Planner
SCDHEC License No: ASB-22641
Expiration Date 01/29/2025

2. INTRODUCTION

FME has completed an ACM investigation of the S-24-166 (Tillman Territory Rd.) over a tributary to Henleys Creek, in Greenwood County, South Carolina. The investigation was performed on October 25, 2024. 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 replacement with 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 Client or FME. No other environmental issues were addressed as part of this report.

3. EXISTING BRIDGE STRUCTURE

The existing bridge structure ($\approx 45.2'$ L x $23.84'$ W, inside curb to inside curb), is located on route S-24-166 (Tillman Territory Rd.) and crosses over a tributary to Henleys Creek in Greenwood County, South Carolina. The construction date of the Bridge is unknown. The structure is a two (2) lane, three (3) span Bridge constructed with pre-fabricated concrete bridge deck and concrete curbing with an asphalt overlay. Each poured-in-place (PIP) bent cap is supported by five (5) structural timber piles. Galvanized metal guardrails are attached to the concrete curbing on each side of the Bridge. Each end bent has a timber soil retaining wall included. No drainage scuppers were noted on the Bridge.

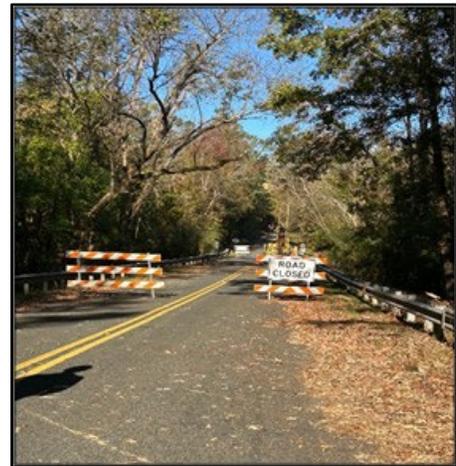


Photo 1: S-24-166 over a tributary to Henleys Creek in Greenwood County, South Carolina

Observations indicate that the Bridge has undergone a repair at an unknown date. A single timber pile on the southwest side of the Bridge has had a steel sleeve added to provide additional support. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, General Bridge Plan, for a layout of the Bridge.

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. Four (4) suspect materials were observed/visible on the Bridge. The suspect materials noted on the Bridge were crack sealant, wood brace coating, timber pile cap felt, and guardrail coating. 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 crack sealant, wood brace coating, timber pile cap felt, and guardrail coating were the only suspect materials identified associated with the Bridge. A total of three (3) 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.

Random samples of these suspect materials were collected for laboratory analysis, and their physical characteristics were recorded. Building materials such as concrete, metal, wood, brick, carpet, etc., were not considered suspect ACM. Bulk samples of suspect materials were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA 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 eight (8) samples were analyzed by PLM and four (4) 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.

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 were 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 subject 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.

If any concealed and/or inaccessible suspect ACM (i.e., bond break bearing pad materials) 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

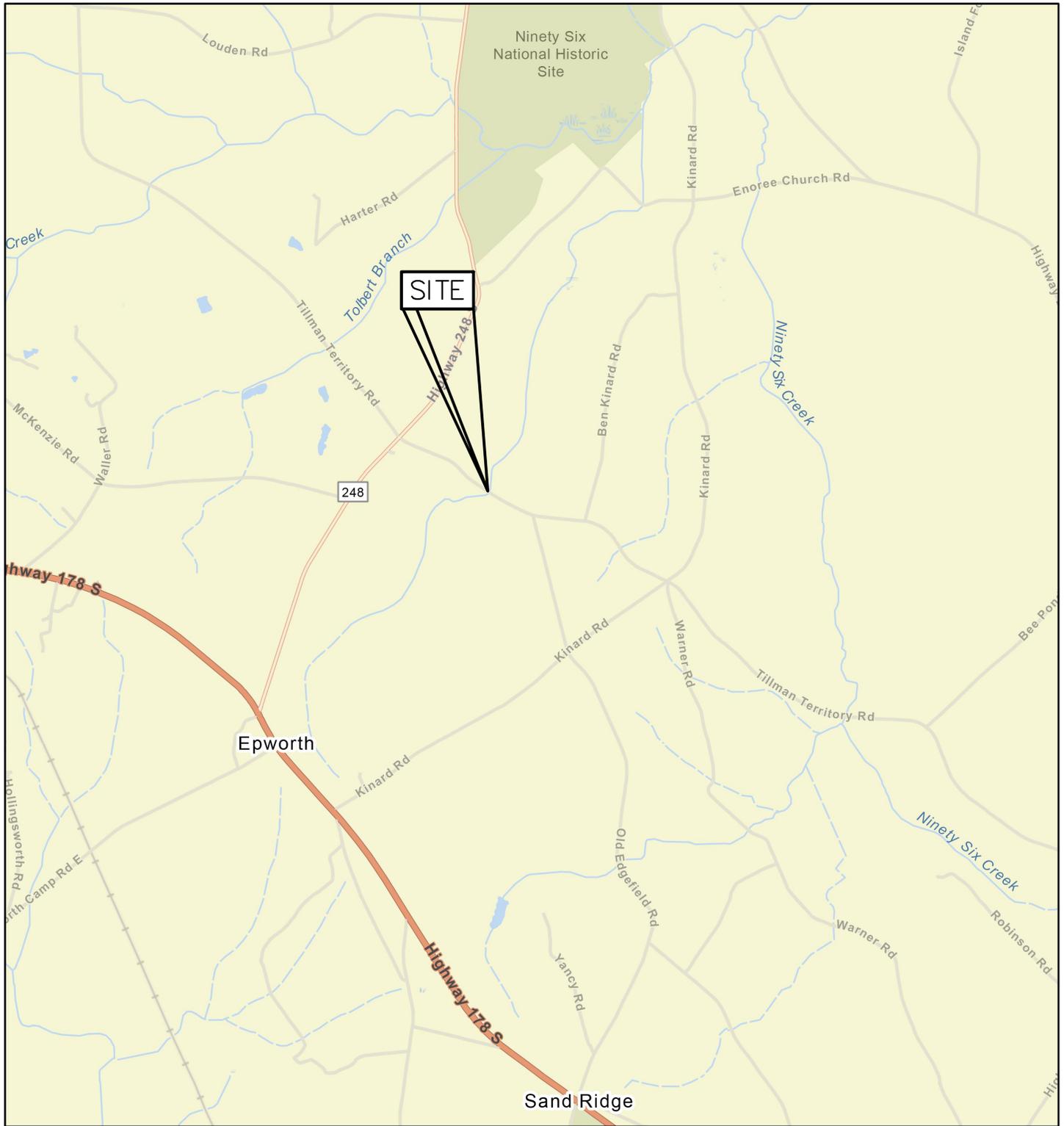
Appendix F – Personnel Certifications

Appendix G – Site Photographs



Appendix A

Site Vicinity Map



Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS

1:58,000

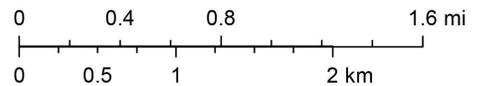


FIGURE NUMBER:

1

F&M CONSULTANTS PROJECT NUMBER:

G67100.007

ASBESTOS CONTAINING MATERIALS INVESTIGATION
 S-24-166 RBO Tributary of Henleys Creek
 Greenwood County, SC
 Site Vicinity Map
 Prepared for: SCDOT
 955 Park Street
 Columbia, SC 29201



211 BUSINESS PARK BLVD.
 COLUMBIA, SC 29203

ORIGINAL:
 October 28, 2024

REVISIONS:

- 1 _____
- 2 _____
- 3 _____

SCALE:
 AS SHOWN

DRWN. BY: MSM

CHKD. BY: BMB

APPR. BY: GME

NOTES:

Appendix B

Sample Location Plan

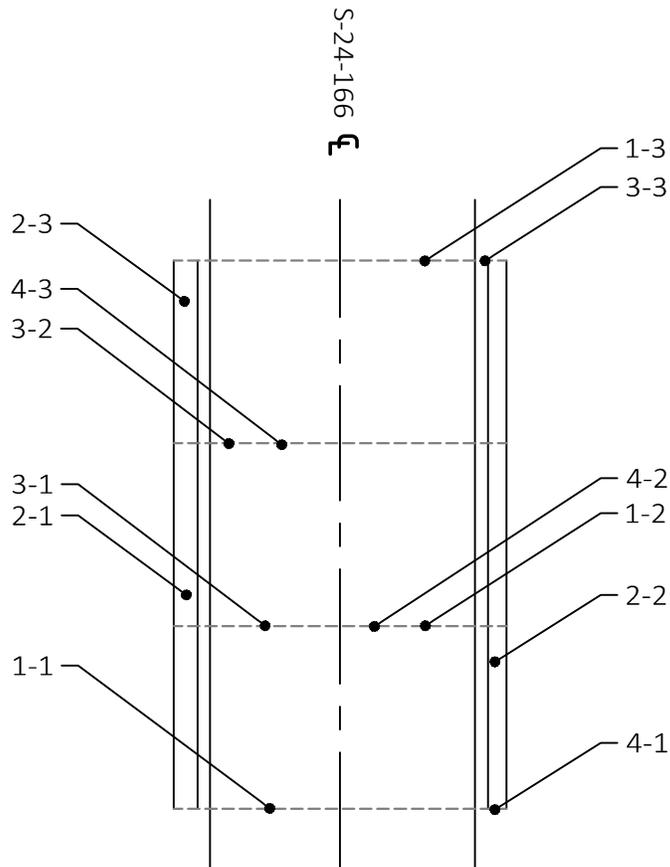


FIGURE
NUMBER:

2

F&ME CONSULTANTS
PROJECT NUMBER:

G7100.007

ASBESTOS CONTAINING MATERIALS INVESTIGATION
S-24-166 RBO Tributary to Henleys Creek
Greenwood County, SC
Sample Location Plan
Prepared for: SCDOT
955 Park Street
Columbia, SC 29201



211 BUSINESS PARK BLVD.
COLUMBIA, SC 29203

ORIGINAL:
October 28, 2024

REVISIONS:

1 _____
2 _____
3 _____

SCALE:
N.T.S.

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

NOTES:

Appendix C

Summary of Samples

Appendix C: Summary of Samples

Sample ID	Description
1-1	Crack Sealant
1-2	Crack Sealant
1-3	Crack Sealant
2-1	Guardrail Coating
2-2	Guardrail Coating
2-3	Guardrail Coating
3-1	Wood Coating
3-2	Wood Coating
3-3	Wood Coating
4-1	Timber Pile Cap Felt
4-2	Timber Pile Cap Felt
4-3	Timber Pile Cap Felt



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: 022406133

Customer ID: FMEC62

Customer PO: G7100.007

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: 10/28/2024 8:15 AM

Analysis Date: 10/28/2024

Collected Date:

Project: S-24-166 over Tributary to Henleys Creek

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 <i>022406133-0001</i>	Crack Sealant	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1-2 <i>022406133-0002</i>	Crack Sealant	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2-1 <i>022406133-0003</i>	Guardrail Coating	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2-2 <i>022406133-0004</i>	Guardrail Coating	Gray/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-1 <i>022406133-0005</i>	Wood Coating	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-2 <i>022406133-0006</i>	Wood Coating	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4-1 <i>022406133-0007</i>	Timber Pile Cap Felt	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
4-2 <i>022406133-0008</i>	Timber Pile Cap Felt	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected

Analyst(s)

Bobby Wheatley (4)

Jurnee West (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 met 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: 10/28/2024 16:33:23



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: 022406133
Customer ID: FMEC62
Customer PO: G7100.007
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: 10/28/2024 8:15 AM
Analysis Date: 10/29/2024
Collected Date:

Project: S-24-166 over Tributary to Henleys Creek

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 022406133-0009	Crack Sealant	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
2-3 022406133-0010	Guardrail Coating	Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
3-3 022406133-0011	Wood Coating	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
4-4 022406133-0012	Timber Pile Cap Felt	Brown/Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (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 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. Kernersville, NC

Initial report from: 10/29/2024 16:45:33

Appendix E

Chain of Custody Form



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody
EMSL Order Number (Lab Use Only):

000406133

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: G7100.007	
Project Name/Number: S-24-166 over Tributary to Henleys Creek		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: Same 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

3 Hour 6 Hour 24 Hour 48 Hour 72 Hour 96 Hour 1 Week 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.

<p>PCM - Air <input type="checkbox"/> Check if samples are from NY</p> <p><input type="checkbox"/> NIOSH 7400</p> <p><input type="checkbox"/> w/ OSHA 8hr. TWA</p>	<p>TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only)</p> <p><input type="checkbox"/> AHERA 40 CFR, Part 763</p> <p><input type="checkbox"/> NIOSH 7402</p> <p><input type="checkbox"/> EPA Level II</p> <p><input type="checkbox"/> ISO 10312</p>	<p>TEM- Dust</p> <p><input type="checkbox"/> Microvac - ASTM D 5755</p> <p><input type="checkbox"/> Wipe - ASTM D6480</p> <p><input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)</p>
<p>PLM - Bulk (reporting limit)</p> <p><input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)</p> <p><input type="checkbox"/> PLM EPA NOB (<1%)</p> <p>Point Count</p> <p><input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)</p> <p>Point Count w/Gravimetric</p> <p><input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)</p> <p><input type="checkbox"/> NYS 198.1 (friable in NY)</p> <p><input type="checkbox"/> NYS 198.6 NOB (non-friable-NY)</p> <p><input type="checkbox"/> NYS 198.8 SOF-V</p> <p><input type="checkbox"/> NIOSH 9002 (<1%)</p>	<p>TEM - Bulk</p> <p><input checked="" type="checkbox"/> TEM EPA NOB</p> <p><input type="checkbox"/> NYS NOB 198.4 (non-friable-NY)</p> <p><input type="checkbox"/> Chatfield SOP</p> <p><input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5</p> <p>TEM - Water: EPA 100.2</p> <p>Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p> <p>All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p>	<p>Soil/Rock/Vermiculite</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<1%)</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%)</p> <p><input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%)</p> <p><input type="checkbox"/> TEM Qualitative via Filtration Prep</p> <p><input type="checkbox"/> TEM Qualitative via Drop Mount Prep</p> <p><input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only)</p> <p>Other:</p> <p><input type="checkbox"/></p>

Check For Positive Stop - Clearly Identify Homogenous Group Filter Pore Size (Air Samples): 0.8µm 0.45µm

Samplers Name: John Croom

Samplers Signature: *John Croom*

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1-1 thru 1-3*	Crack Sealant		
2-1 thru 2-3*	Guardrail Coating		
3-1 thru 3-3*	Wood Coating		
4-1 thru 4-3*	Timber Pile Cap Felt		

Client Sample # (s): 1-1	- 4-3	Total # of Samples: 12
Relinquished (Client): <i>John Croom</i>	Date: 10/25/2024	Time: 17:00
Received (Lab): <i>J Sweet</i>	Date: 10/28/24	Time: 8:15
Comments/Special Instructions: SC Guidelines		

① 7915 2004
Controlled Document - Asbestos COC - R10 - 05/08/2016

le210

Appendix F

Personnel Certifications



SCDES ISSUED

Asbestos ID Card



Glynn M Ellen



		Expiration Date:
AIRSAMPLER	AS-00079	01/30/25
CONSULTMP	ASB-22641	01/29/25
CONSULTPD	PD-00098	08/07/25
SUPERAHERA	SA-00455	01/30/25

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



SCDHEC ISSUED

Asbestos ID Card

Brianna Bailey



**AIRSAMPLER
CONSULTMP
SUPERAMERA**

**AS-000749
MP-000325
SA-004090**

Expiration Date:

**05/02/25
03/14/25
05/02/25**

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 SCDHEC. 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: SCDHEC - Asbestos Section
2600 Bull Street
Columbia, SC 29201
(803) 898-4289

Appendix G

Site Photographs



Photo 1. Top View of Bridge Deck.



Photo 2. Underside View of Bridge.



Photo 3. West Side View of Bridge.



Photo 4. Underside View of Bridge.



Photo 5. End Cap Support Underside View.



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

