



ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

S-24-230 (TOWNSEND RD. EAST) OVER TOWNSEND CREEK
GREENWOOD COUNTY, SOUTH CAROLINA
PROJECT ID P043995

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

TABLE OF CONTENTS

| | | |
|----|---------------------------------|---|
| 1. | Executive Summary..... | 1 |
| 2. | Introduction..... | 2 |
| 3. | Existing Bridge Structure | 2 |
| 4. | Field Assessment | 4 |
| 5. | Assessment Results..... | 3 |
| 6. | Recommendations..... | 4 |
| | APPENDICES | 5 |

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



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 S-24-230 (Townsend Rd. East) over Townsend Creek (Bridge) in Greenwood County, South Carolina at the request of the South Carolina Department of Transportation (SCDOT) (Client). The field investigation was performed on October 23, 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 two (2) suspect materials: timber pile cap felt and bent cap bearing pads. 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
SCDES License No: MP-00325
Expiration Date 03/14/2025



Glynn M. Ellen

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



2. INTRODUCTION

FME has completed an ACM investigation of S-24-230 (Townsend Rd. East) over Townsend Creek, in Greenwood County, South Carolina. The investigation was performed on October 23, 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 ($\approx 75.0'$ L x $25.5'$ W, inside curb to inside curb), is located on S-24-230 and crosses over Townsend Creek in Greenwood County, South Carolina. The construction date of the Bridge is unknown. The structure is a two (2) lane, five (5) span Bridge constructed with a pre-fabricated concrete bridge deck and concrete curbing with an asphalt overlay. Each poured-in-place bent cap is supported by six (6) structural timber piles. Pre-drilled holes were noted along each side of the Bridge to allow for for water drainage. Galvanized metal guardrails are attached to the concrete curbing on each side of the Bridge. Observations indicate that the Bridge has undergone a minor repair at an unknown date. A single timber pile has been replaced with a structural steel H-pile on the northeast end of the Bridge. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, General Bridge Plan, for a layout of the Bridge.



Photo 1: S-24-230 (Townsend Rd. East) RBO Townsend Creek in Greenwood 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. Two (2) suspect materials were observed/visible on the Bridge. The suspect materials noted on the Bridge were timber pile cap felt and bent cap bearing pads. Samples of these materials were taken from random locations on the Bridge and submitted for laboratory analysis. 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 timber pile cap felt and bent cap bearing pads 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 four (4) 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.

Appropriate sampling and chain-of-custody protocols were followed to ensure proper handling and delivery of samples to the analytical laboratory. Appendix D, Bulk Asbestos Analytical Report and Appendix E, Laboratory Chain of Custody were provided to show laboratory documentation of the analytical results. Appendix F, Personnel Certifications, 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 timber pile cap felt and bent cap bearing pad 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

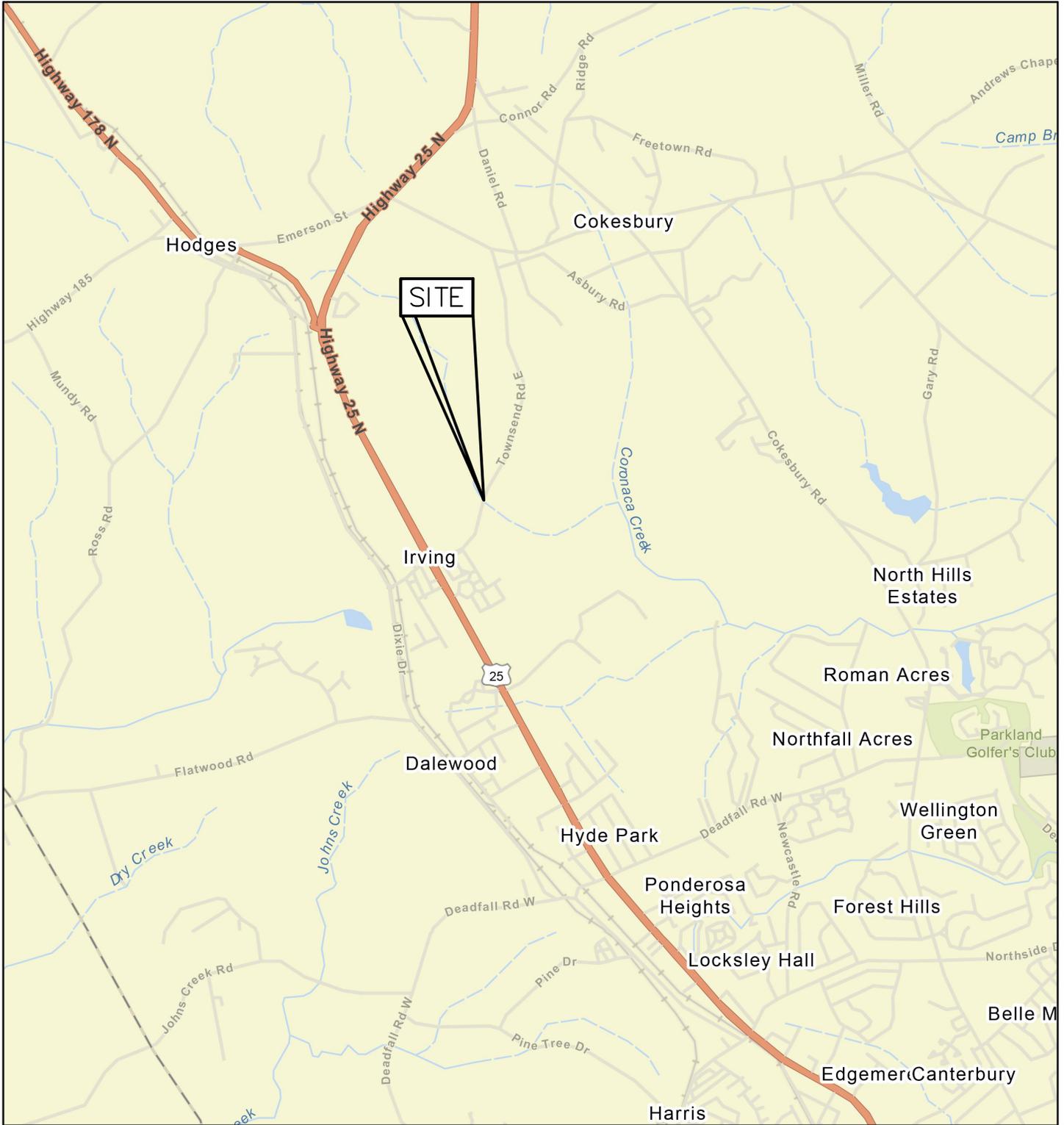
Appendix F – Personnel Certifications

Appendix G – Site Photographs



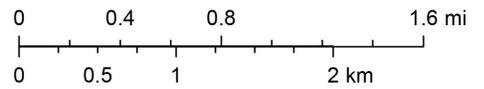
Appendix A

Site Vicinity Map



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

1:58,000



| | | | | | |
|----------------------------------|--|--|--|---|--|
| <p>FIGURE NUMBER: 1</p> | <p>F&M CONSULTANTS PROJECT NUMBER: G67100.007</p> | <p>ASBESTOS CONTAINING MATERIALS INVESTIGATION S-24-230 RBO Townsend Creek Greenwood County, SC Site Vicinity Map Prepared for: SCDOT 955 Park Street Columbia, SC 29201</p> |  <p>211 BUSINESS PARK BLVD. COLUMBIA, SC 29203</p> | <p>ORIGINAL: October 23, 2024</p> <p>REVISIONS:</p> <p>1 _____</p> <p>2 _____</p> <p>3 _____</p> <p>SCALE: AS SHOWN</p> | <p>DRWN. BY: MSM CHKD. BY: BMB APPR. BY: GME</p> <p>NOTES:</p> |
|----------------------------------|--|--|--|---|--|

Appendix B

Sample Location Plan

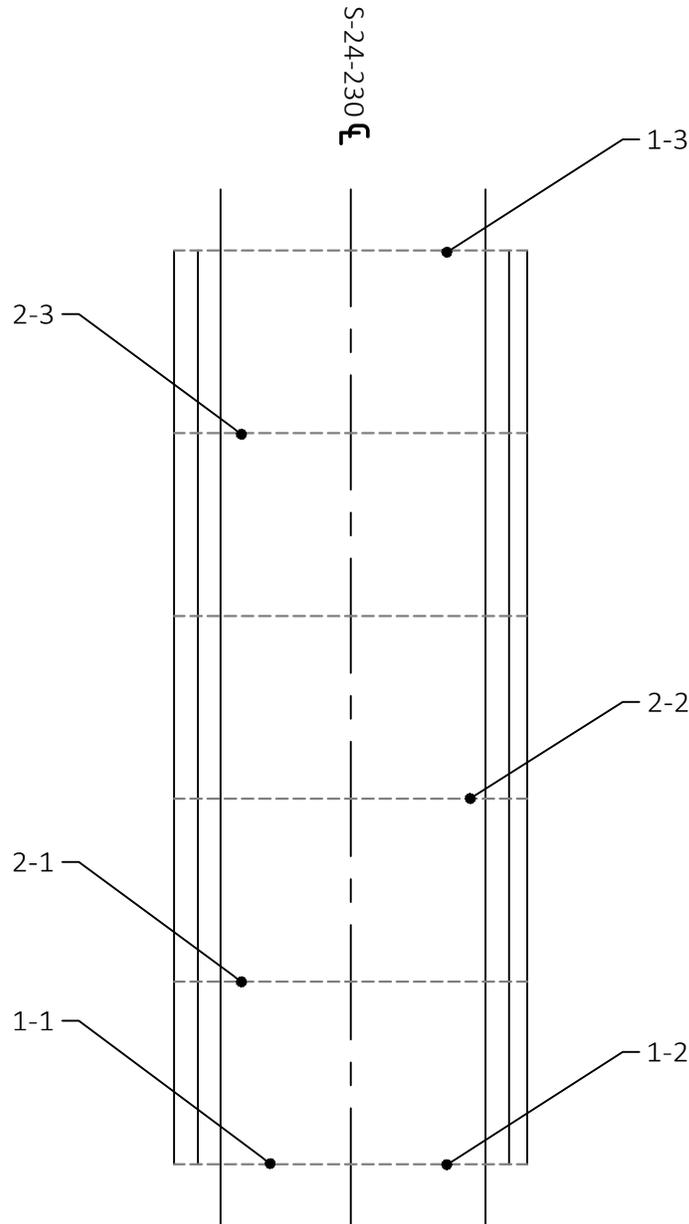


FIGURE
NUMBER:

2

F&ME CONSULTANTS
PROJECT NUMBER:

G7100.007

ASBESTOS CONTAINING MATERIALS INVESTIGATION
S-24-230 RBO Townsend 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 23, 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 | Timber Pile Cap Felt |
| 1-2 | Timber Pile Cap Felt |
| 1-3 | Timber Pile Cap Felt |
| 2-1 | Bent Cap Bearing Pad |
| 2-2 | Bent Cap Bearing Pad |
| 2-3 | Bent Cap Bearing Pad |



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: 022406081

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: 10/24/2024 9:00 AM

Analysis Date: 10/24/2024

Collected Date:

Project: S-24-230 over Townsend 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>022406081-0001</i> | Timber Pile Cap | Black Fibrous Homogeneous | 60% Cellulose | 40% Non-fibrous (Other) | None Detected |
| 1-2 <i>022406081-0002</i> | Timber Pile Cap | Black Fibrous Homogeneous | 60% Cellulose | 40% Non-fibrous (Other) | None Detected |
| 1-3 <i>022406081-0003</i> | Timber Pile Cap | Tan/Black Fibrous Homogeneous | 60% Cellulose | 5% Quartz 35% Non-fibrous (Other) | None Detected |
| 2-1 <i>022406081-0004</i> | Bent Cap | Tan/Black Fibrous Heterogeneous | 15% Cellulose | 85% Non-fibrous (Other) | None Detected |
| 2-2 <i>022406081-0005</i> | Bent Cap | Brown/Tan/Black Non-Fibrous Heterogeneous | 1% Cellulose | 99% Non-fibrous (Other) | None Detected |
| 2-3 <i>022406081-0006</i> | Bent Cap | Black Fibrous Heterogeneous | 10% Cellulose | 90% Non-fibrous (Other) | None Detected |

Analyst(s)

Cameron Evans (2)

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 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: 10/25/2024 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: 022406081
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: 10/24/2024 9:00 AM
Analysis Date: 10/29/2024
Collected Date:
Project: S-24-230 over Townsend 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 022406081-0003 | Timber Pile Cap | Tan/Black Fibrous Heterogeneous | 100.0 Other | None | No Asbestos Detected |
| 2-3 022406081-0006 | Bent Cap | Black Non-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: 10/29/2024 10:48:09

Appendix E

Chain of Custody Form



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

022406081

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-24-230 over Townsend 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: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** <i>Third Party Billing requires written authorization from third party</i> | | | |
| Turnaround Time (TAT) Options* - Please Check | | | |
| <input type="checkbox"/> 3 Hour | <input type="checkbox"/> 6 Hour | <input checked="" type="checkbox"/> 24 Hour | <input checked="" 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. | | | |
| 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 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: Mike Mincey | | Samplers Signature: <i>Mike Mincey</i> | |
| Sample # | Sample Description | Volume/Area (Air) HA # (Bulk) | Date/Time Sampled |
| 1-1 thru 1-3* | Timber Pile Cap | | |
| 2-1 thru 2-3* | Bent Cap | | |
| | | | |
| | | | |
| Client Sample # (s): 1-1 - 2-3 | | Total # of Samples: 6 | |
| Relinquished (Client): <i>Mike Mincey</i> | | Date: 10/23/2024 | Time: 17:00 |
| Received (Lab): <i>Jen Sweet</i> | | Date: 10-24-24 | Time: 9a |
| Comments/Special Instructions: SC Guidelines | | | |

DEAF 7915 2053

6872

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 | AS-000749 | Expiration Date: | 05/02/25 |
| CONSULTMP | MP-000325 | | 03/14/25 |
| SUPERAHERA | SA-004090 | | 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. Southwest Side View of Bridge.



Photo 4. Southeast Side View of Bridge.



Photo 5. Non-ACM Timber Cap Felt.



Photo 6. Non-ACM Bent Cap Bearing Pad.

