



ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

US - 176 (WHITMIRE HWY.) BRIDGE OVER PADGETTS CREEK
SCDOT BRIDGE #442017600200
UNION COUNTY, SOUTH CAROLINA

PREPARED FOR:



C/O Ms. Lila Leon, PE PhD
SC Geotechnical Lead
1201 Main Street, Suite 800
Columbia, SC 29201

PREPARED BY:

F&ME Consultants
1825 Blanding Street
Columbia, South Carolina 29201

February 23, 2023

☐ ACM was found.
☒ ACM was not found.

F&ME Project No.: G6658.004

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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 SCDOT Bridge #442017600200 located along US-176 (Whitmire Hwy.) crossing over Padgetts Creek, in Union County, South Carolina at the request of HDR (Client). The field investigation was performed on February 7, 2023, in anticipation of an on-alignment replacement of the existing bridge structure. This investigation was also conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), 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 and/or renovation activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition activities associated with the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the Bridge identified three (3) suspect materials: original bridge bond break bearing pads, bridge addition bond break bearing pads, and expansion joint 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 (i.e., bond break materials) might be discovered. If suspect ACM is found, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/asbestos Consultant for an appropriate response action. The SCDHEC 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



Michael S. Mincey

Environmental Professional

Asbestos Consultant/ Management Planner

SCDHEC License No: MP-00161

Expiration Date 01/24/2024



Glynn M. Ellen

Environmental Department Manager

Asbestos Consultant/ Management Planner

SCDHEC License No: ASB-22641

Expiration Date 01/24/2024



2. INTRODUCTION

F&ME Consultants has completed an ACM investigation of the SCDOT Bridge #442017600200 located along US-176 (Whitmire Hwy.), crossing over Padgetts Creek, in Union County, South Carolina. The investigation was performed on February 7, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition and/or renovation activities. See Appendix A – Site Vicinity Map for the location of Bridge.

It is our understanding that the proposed project will include the complete demolition and removal of the existing bridge structure, and replacement with a new bridge on the existing horizontal alignment. The purpose of this investigation was to determine if asbestos was present on the existing bridge structure 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 structure (~86.5' L x 28.5' W, inside curb to inside curb), is located on US-176 (Whitmire Hwy.) and crosses over Padgetts Creek in Union County, South Carolina. The construction date of the Bridge is unknown. The existing Bridge is a four (4) span, two (2) lane concrete and steel bridge, with an asphalt overlay. The original bridge deck is constructed with poured-in-place (PIP) concrete deck and horizontal concrete beams which rest on PIP concrete bent caps. The original Bridge bent caps are supported by two (2) PIP concrete piers. The Bridge was widened approximately



Photo 1: SC - 176 (Whitmire Hwy.) over Padgetts Creek, Union County, South Carolina

5' on the east and west sides in 1955 according to the date stamped into the concrete guardrail. The bridge decking for the widened section of the Bridge is supported by PIP concrete bent caps that are supported by one (1) structural steel H-pile at the end of each bent. Metal drainage scuppers were noted along the sides of the bridge structure. Metal guardrails and posts are attached to the concrete curb on each side. See Appendix A – Site Vicinity Map, for the location of the Bridge. See Appendix B –General Bridge Plan, for a layout of the Bridge..



4. FIELD ASSESSMENT

During the investigation, all accessible bridge components (i.e., concrete bent caps, piles, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent and/or pile cap felts, bond-break pads, expansion joint materials, and drainage scuppers. The deck of the original Bridge rested directly on the concrete beams and bent caps with bond break bearing pads between them. The widened section of the Bridge rested on the concrete bent caps with a newer bond break bearing pad observed/visible between them. The steel H-piles were attached directly to the underside of the concrete bent caps with no suspect materials being noted between them. The expansion joints of the Bridge had an expansion joint material observed. See Appendix B – Sample Location Plan. Also, see Appendix G – Site Photographs, for more details.

5. 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 structure is to be demolished in anticipation of constructing a new bridge. The investigation of the Bridge identified three (3) suspect materials: original Bridge bond break bearing pads, widened section of the Bridge bond break bearing pads, and expansion joint 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.**

If any concealed and/or inaccessible suspect ACM 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 SCDHEC 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. 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 HDR 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 Forms

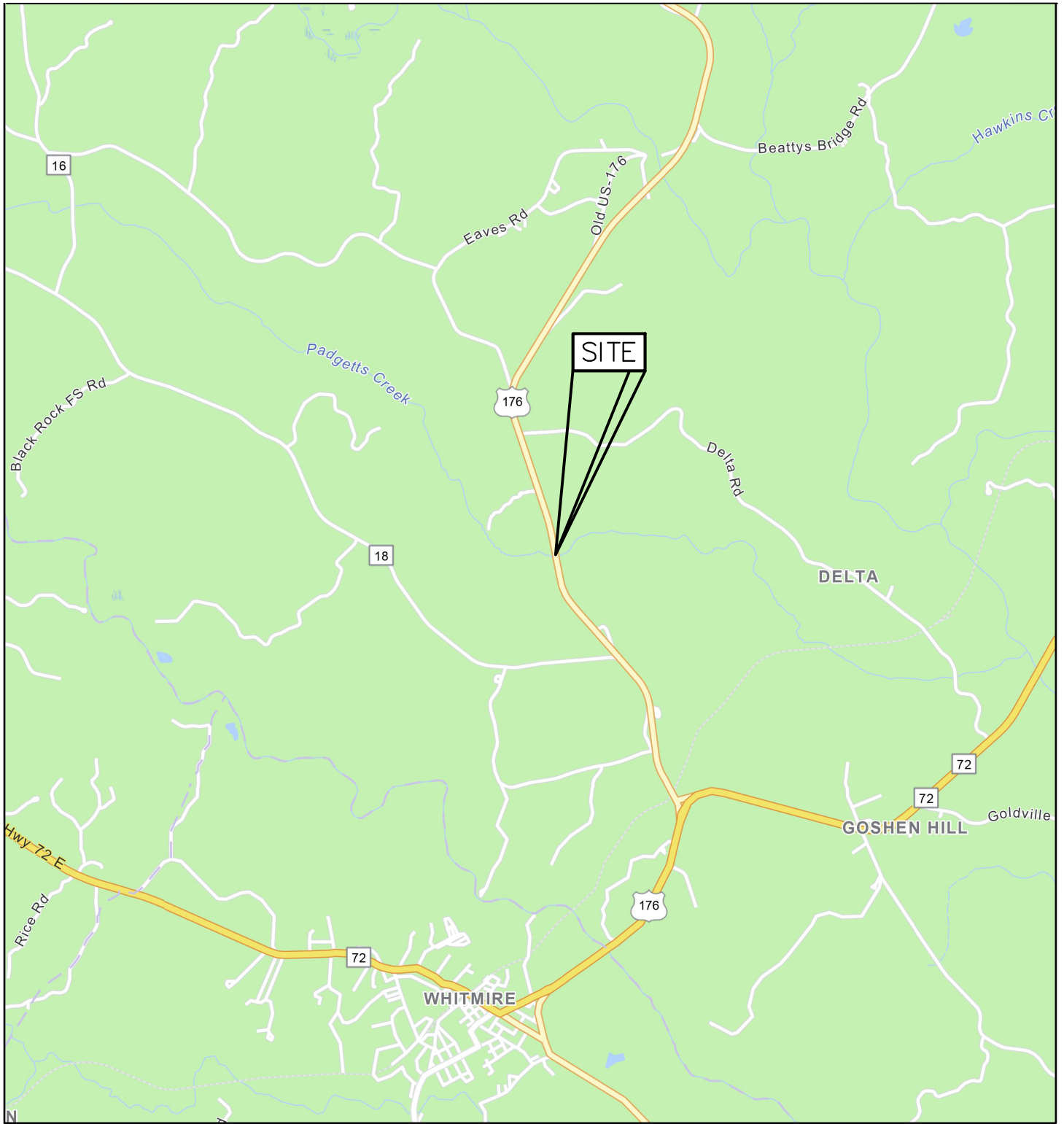
Appendix F – Personnel Certifications

Appendix G – Site Photographs



Appendix A

Site Vicinity Map



1:72,000

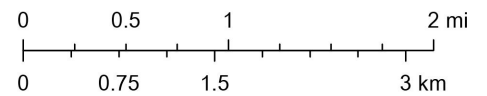


FIGURE
NUMBER:

1

F&ME CONSULTANTS
PROJECT NUMBER:

G6658.004

ASBESTOS CONTAINING MATERIALS INVESTIGATION
US-176 Bridge over Padgett's Creek
Union County, SC
Site Vicinity Map
Prepared for: HDR, Inc.
1201 Main Street, Suite 800
Columbia, SC 29201



1825 BLANDING STREET
COLUMBIA, SC 29201

ORIGINAL:
February 22, 2023

REVISIONS:

1
2
3

SCALE:
AS SHOWN

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

NOTES:

Appendix B

Sample Location Plan



US-176

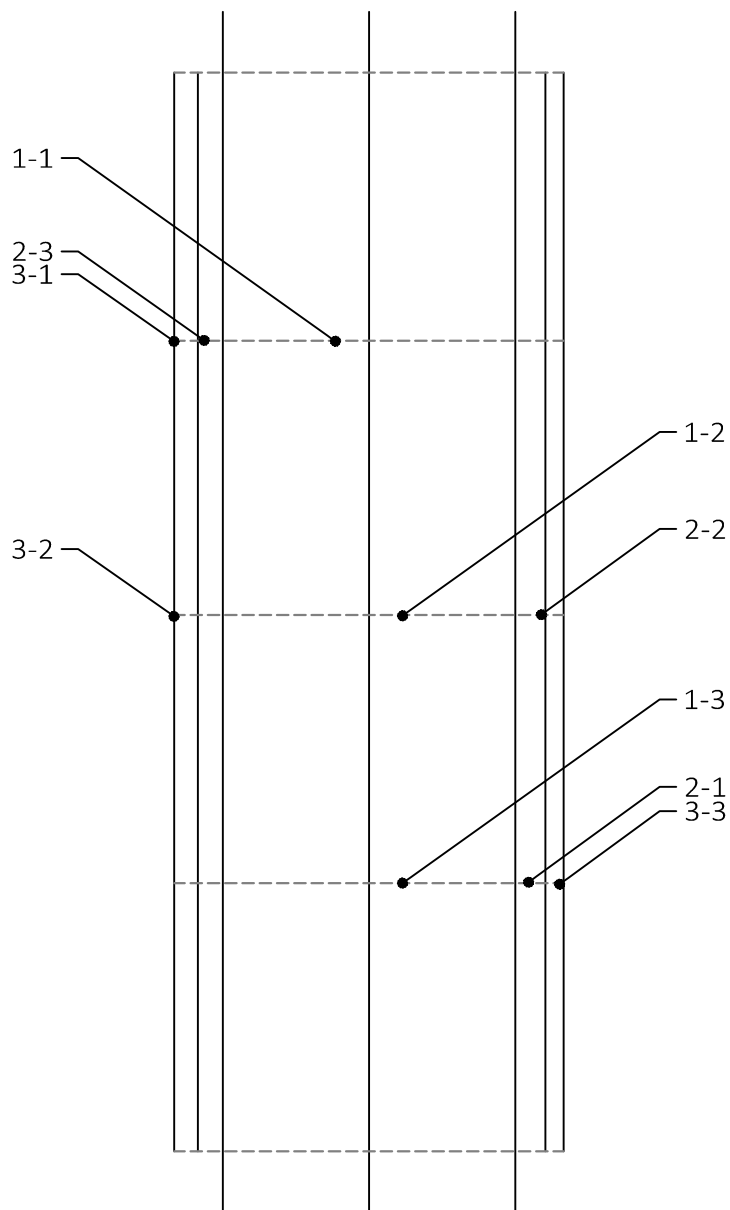


FIGURE
NUMBER:

2

F&ME CONSULTANTS
PROJECT NUMBER:

G6658.004

ASBESTOS CONTAINING MATERIALS INVESTIGATION
US-176 Bridge over Padgett's Creek
Union County, SC
Sample Location Plan
Prepared for: HDR, Inc.
1201 Main Street, Suite 800
Columbia, SC 29201



1825 BLANDING STREET
COLUMBIA, SC 29201

ORIGINAL:
February 22, 2023

REVISIONS:

1 _____
2 _____
3 _____

SCALE:
N.T.S.

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

NOTES:

Appendix C

Summary of Samples

Appendix C: Summary of Samples

Sample ID	Description
1-1	Original Bond Break Bearing Pad
1-2	Original Bond Break Bearing Pad
1-3	Original Bond Break Bearing Pad
2-1	Addition Bond Break Bearing Pad
2-2	Addition Bond Break Bearing Pad
2-3	Addition Bond Break Bearing Pad
3-1	Expansion Joint Material
3-2	Expansion Joint Material
3-3	Expansion Joint 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> / greensborolab@emsl.com

EMSL Order: 022301155

Customer ID: FMEC62

Customer PO: G6658.004

Project ID:

Attention: Glynn M. Ellen
F & ME Consultants
1825 Blanding Street
Columbia, SC 29201

Phone: (803) 254-4540

Fax: (803) 254-4542

Received Date: 02/08/2023 9:35 AM

Analysis Date: 02/09/2023

Collected Date:

Project: US 176 RBO Padgett's 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 % Type
			% Fibrous	% Non-Fibrous	
1-1 022301155-0001	Original Bearing Pad	Black Non-Fibrous Homogeneous	2% Cellulose <1% Glass	98% Non-fibrous (Other)	None Detected
1-2 022301155-0002	Original Bearing Pad	Black Non-Fibrous Homogeneous	2% Cellulose <1% Glass	98% Non-fibrous (Other)	None Detected
2-1 022301155-0003	Addition Bearing Pad	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
2-2 022301155-0004	Addition Bearing Pad	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
3-1 022301155-0005	Expansion Joint Material	Black Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
3-2 022301155-0006	Expansion Joint Material	Black Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected

Analyst(s)

Cameron Evans (3)

Jurnee West (3)

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: 02/13/2023 08:23:13



EMSL Analytical, Inc.

706 Gralin Street Kenersville, NC 27284

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

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

EMSL Order: 022301155

Customer ID: FMEC62

Customer PO: G6658.004

Project ID:

Attention: Glynn M. Ellen
F & ME Consultants
1825 Blanding Street
Columbia, SC 29201

Phone: (803) 254-4540

Fax: (803) 254-4542

Received Date: 02/08/2023 9:35 AM

Analysis Date: 02/13/2023

Collected Date:

Project: US 176 RBO Padgett's 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 022301155-0007	Original Bearing Pad	Brown/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
2-3 022301155-0008	Addition Bearing Pad	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
3-3 022301155-0009	Expansion Joint Material	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (3)

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: 02/14/2023 08:08:23

Appendix E

Chain of Custody Forms



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

1155

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: 3112 Devine Street		City: Columbia	State/Province: SC
Zip/Postal Code: 29205	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: G6658.004	
Project Name/Number: US 176 RBO Padgett's 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** 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		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	
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 - 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: Mike Mincey		Samplers Signature: <i>Mike Mincey</i>	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*1-1 thru 1-3	Original Bearing Pad		
*2-1 thru 2-3	Addition Bearing Pad		
*3-1 thru 3-3	Expansion Joint Material		
Client Sample # (s): 1-1 - 3-3		Total # of Samples: 9	
Relinquished (Client): <i>Mike Mincey</i>		Date: 02/07/2023	Time: 17:00
Received (Lab): <i>SS</i>		Date: 2-8-23	Time: 9:35am
Comments/Special Instructions: SC Guidelines.			

EMSLFX
Controlled Document - Asbestos COC - R10 - 05/09/2016

Appendix F

Personnel Certifications

SCDHEC ISSUED

Asbestos ID Card

Glynn M Ellen



AIRSAMPLER	AS-00079	Expiration Date: 01/22/24
CONSULTMP	ASB-22641	01/23/24
CONSULTPD	PD-00098	07/12/23
SUPERAHERA	SA-00455	01/22/24

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

SCDHEC ISSUED

Asbestos ID Card

Michael Mincey



**AIRSAMPLER
CONSULTMP
SUPERAHERA**

**AS-00272
MP-00161
SA-01424**

Expiration Date:

01/22/24

01/23/24

01/22/24

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. East Side View of Bridge.



Photo 5. New Bridge Addition Underside View.



Photo 6. SCDOT Bridge Number Placard Attached to the Concrete Guardrail.

