



May 26, 2023

CDM Smith
1441 Main Street, Suite 1000
Columbia, South Carolina 29201

Attention: Mr. Thomas Evans, P.E.

Reference: **Asbestos and Lead-Based Paint Assessment Report
I-526 at Long Point Road – Bridge 08329**
Mount Pleasant, South Carolina
S&ME Project No. 200424A

Dear Mr. Evans:


S&ME, Inc. (S&ME) is pleased to provide the enclosed report detailing the asbestos and lead-based paint assessment of the referenced bridge structure. The attached report presents the findings of S&ME's assessment conducted on April 7, 2023, and May 7, 2023. The assessment was performed in general accordance with the Agreement between Engineer and Subcontractor for Professional Services with CDM Smith and S&ME, Inc. dated March 29, 2023. The report includes the executive summary, project background, assessment procedures, findings and results, and conclusions and recommendations for the proper treatment of asbestos containing materials and lead-based paint.

This report is provided for the sole use of CDM Smith. Use of this report by any other parties will be at such party's sole risk and S&ME, Inc. disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the assessment and of the specific area referenced. The information provided in this assessment report should not be used as a bidding document, and field conditions should be verified.

We appreciate the opportunity to provide you with our industrial hygiene services. If you have any questions concerning this report, please call us at (843) 884-0005.

Sincerely,

S&ME, Inc.


Josh Veloso
Staff Industrial Hygienist


Terry W. Richburg
Operations Manager - Environmental

Attachment: Asbestos and Lead-Based Paint Assessment Report



**Asbestos and Lead-Based Paint Assessment Report
I-526 at S-97 Long Point Road – Bridge 08329
Mount Pleasant, South Carolina
S&ME Project No. 200424A**

Assessment Performed by:

5-26-2023

Bill Seaborn (SCDHEC Accreditation #BI-01317)

Date

Report Prepared by:

5-26-2023

Terry W. Richburg (SCDHEC Accreditation #MP-00110)

Date

PREPARED FOR:

CDM Smith

**1441 Main Street, Suite 1000
Columbia, South Carolina 29201**

PREPARED BY:

S&ME, Inc.

**620 Wando Park Boulevard
Mt Pleasant, SC 29464**

Inspection Performed by:

Bill Seaborn

SCDHEC Lic. BI-01317

Inspection Dates: April 7, 2023 & May 7, 2023

- ☒ Asbestos WAS found
- ☐ Asbestos was NOT found
- ☒ Lead-Based Paint was NOT found
- ☐ Lead-Based Paint WAS found

Report Expiration: May 2026

May 26, 2023



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Executive Summary

An asbestos and lead-based paint assessment was conducted on April 7, 2023, and May 7, 2023 of Bridge 08329 on I-526 Westbound over S-97 Long Point Road in Mount Pleasant, South Carolina. The purpose of the assessment was to identify the presence of asbestos containing materials (ACMs) and lead-based paint associated with the bridge to support planned demolition and disposal. The assessment also complies with federal, state, and local asbestos requirements regarding identification of ACMs that may be disturbed due to renovation or demolition.

The subject bridge consists of concrete piles supporting an approximate 265 feet length of concrete roadway.

Asbestos Containing Materials

The suspect ACMs sampled as part of the assessment consist of concrete and caulk associated with expansion joints, caulk/sealant associated with bridge columns, spray-applied texture, and mastic associated with reflective pavement markers.

Of the representative materials sampled and analyzed as part of the assessment, identified ACMs are summarized in Table 1 below:

Table 1: Summary of Confirmed ACMs

Material	HA	Location	Asbestos Type	Percent	Condition	Potential for Disturbance	¹ Approx. Quantity
Caulk/Sealant (black) associated with Bridge Columns at Sidewalk/Footer	CL	Base of Support Columns	Chrysotile	4	G, NF	PSD	72 LF

¹The quantities are estimated and should be field verified for bidding purposes.

Abbreviations:

HA = homogeneous area	SF = square feet	LF = linear foot	G = good
D = damaged	SD = significantly damaged	NF = non-friable	F = friable
LPD = low potential for disturbance	PD = potential for disturbance	PSD = potential for sig. disturbance	

The identified caulk/sealant is classified as a Category I non-friable friable ACM in good condition with a potential for significant disturbance due to the planned demolition and disposal of the subject bridge. No asbestos, greater than one percent (>1%), was detected in the remaining bulk samples collected and analyzed.

The Environmental Protection Agency (EPA), South Carolina Department of Health and Environmental Control (SCDHEC), and Occupational Safety and Health Administration (OSHA) defines a material as an ACM if an asbestos content greater than one percent (>1%) is detected in a representative sample.

A notification of demolition, along with a copy of this report, must be submitted to the SCDHEC 10-weekdays prior to demolition activities. If additional suspect ACMs not addressed in this report will be disturbed by the



planned demolition and replacement activities, bulk samples must be collected by a SCDHEC licensed inspector and analyzed for asbestos content prior to disturbance or disposal of the suspect materials. This report should also be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations.

Lead-Based Paint

A lead-based paint assessment was performed concurrently with the asbestos assessment of representative paint associated with the referenced bridge structure. The paints were analyzed using direct measurement X-Ray Fluorescence (XRF) technology using a Heuresis Pb200i (serial #1852). For the purpose of this assessment, painted surfaces with lead concentrations meeting the SCDHEC disposal limit (0.7 mg/cm^2) are considered lead-based paint or lead-containing material.

Of the representative suspect paints tested, none exhibited lead concentrations meeting the SCDHEC disposal limit of 0.7 mg/cm^2 .

Low levels of lead were detected which may be applicable to the standards of the OSHA 29 CFR 1926.62 (Lead in Construction) dependent upon the tasks impacting those surfaces. Destructive actions to paint containing detectable levels of lead (e.g. component removal, demolition, sanding, grinding, burning, paint preparation, etc.) will require the contractor comply with the standards of the OSHA regulation 29 CFR 1926.62 (Lead in Construction), including but not limited to training, initial exposure monitoring, the use of personal protective equipment, and medical surveillance.

This summary is for convenience of the reader and should not be completely relied upon without reviewing the full contents of this report, including appended materials.



1.0 Background

S&ME, Inc. (S&ME) was contracted by CDM Smith to perform an asbestos and lead-based paint assessment of Bridge 08329 on I-526 Westbound over S-97 Long Point Road in Mount Pleasant, South Carolina. The assessment was subsequently performed April 7, 2023, and May 7, 2023, by Bill Seaborn and John McEathron, both with S&ME. The purpose of the assessment was to identify the presence of asbestos containing materials (ACMs) and lead-based paint associated with the referenced bridge to support planned demolition and disposal. The assessment also complies with federal, state, and local asbestos requirements regarding identification of asbestos containing building materials that may be disturbed due to renovation or demolition.

The asbestos assessment was conducted to assess, sample, and identify ACMs in accordance with regulatory requirements. The identification of ACMs will aid in the prevention of occupational exposures and/or environmental releases of airborne asbestos. Identification of ACMs also complies with Title 40 Code of the Federal Regulations, part 61, and State regulation 61-86.1 enforced by the South Carolina Department of Health and Environmental Control (SCDHEC), along with Title 29 Code of Federal Regulations, part 1926 enforced by the Occupational Safety and Health Administration (OSHA). The following sections describe the assessment procedures used, results of the suspect ACMs sampled and analyzed, and conclusions and recommendations related to ACMs.

The purpose of the lead-based paint testing was to assess and identify lead-based paint coatings and lead-containing materials associated with the referenced bridge. The identification of these coatings and materials will aid in the compliance of occupational exposure (OSHA) and/or environmental releases of airborne lead dust in accordance with OSHA 29 CFR 1926.62 (Lead in Construction) and provide information to determine proper disposal of lead-based paint coated components and debris in accordance with the SCDHEC and the Environmental Protection Agency (EPA).

2.0 Site and Project Description

2.1 Purpose

The purpose of the assessment was to identify the presence ACMs and lead-based paint associated with the referenced bridge prior to planned demolition and disposal. An assessment strategy appropriate for this purpose was presented in our proposal and is described in this report. The report should be interpreted only with regard to the specific location and materials referenced.

2.2 Site Description

The subject bridge consists of concrete piles supporting an approximate 265 feet length of concrete roadway.



3.0 Assessment Procedures

3.1 Asbestos Containing Materials

The assessment was performed by observing and sampling suspect ACMs associated with the referenced bridge. The possibility exists that suspect materials were undetected in inaccessible areas such as below grade and under water. If additional suspect ACMs not addressed in this report are discovered during destructive activities, bulk samples must be collected by a SCDHEC licensed inspector and analyzed for asbestos content prior to disturbance or disposal of the suspect materials.

The suspect ACMs were quantified and subject to a physical condition assessment. A sampling strategy was then developed to provide representative samples in accordance with the SCDHEC and EPA. Suspect ACMs observed were classified based on their condition (good, damaged, or significantly damaged) and potential for disturbance. Bulk samples of suspect ACMs were collected by a SCDHEC licensed inspector. The bulk samples were then extracted from suspect ACMs and recorded on a chain of custody record and submitted to our in-house laboratory for analysis by Polarized Light Microscopy (PLM). Confirmation analysis was performed by Transmission Electron Microscopy (TEM) by EMSL Analytical for non-friable organically bound materials reported negative by PLM. The laboratories are in Charlotte, North Carolina and both are accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), which is administered by the National Institute of Standards and Technology.

Polarized Light Microscopy (PLM)

The suspect materials were analyzed by trained microscopists using PLM techniques coupled with dispersion staining in accordance with EPA Test Method Title 40 Code of Federal Regulations, Chapter I (1-1-87 edition), Part 763, Subpart F-APPENDIX A. This method identifies asbestos mineral fibers based on six optical characteristics: morphology, birefringence, refractive index, extinction angle, sign of elongation and dispersion staining colors. The laboratory analysis reports the specific type of asbestos identified (there are six asbestos minerals) and the percentage of asbestos present.

Transmission Electron Microscopy (TEM)

One representative sample from each suspect non-friable organically bound homogeneous material, which exhibited negative results via PLM analysis, was analyzed by trained microscopists via TEM, in accordance with ASTM E2356 per SCDHEC requirements.

Identified ACMs were categorized based on the EPA's NESHAP regulation categories. A friable ACM is classified as an ACM that can be crumbled to a powder by moderate hand pressure. A non-friable ACM is classified as either Category I or Category II non-friable ACM. Category I and Category II non-friable ACMs are distinguished from each other by their fiber release potential when damaged. Generally, Category I non-friable ACM, which by definition includes intact asbestos-containing roofing materials, gaskets, packing, and resilient floor coverings, is less likely to become friable and release fibers in a damaged state. Category II non-friable ACM include all other non-friable ACMs excluding Category I that have a high probability of being rendered friable during removal activities or demolition. All friable ACM, Category I non-friable ACM that has become friable, Category I non-



friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations are considered to be a Regulated Asbestos-Containing Material (RACM).

3.2 Lead

Lead testing was performed on representative suspect paints associated with the bridge. The paints were tested using a Heuresis Pb200i (serial #1852) XRF Lead Analyzer. The suspect paint coatings were selected based on the color of the topcoat and the underlying paint layers and/or the substrate on which it was applied. The possibility exists that lead-based paint finishes are present in other areas, as only representative testing was conducted. The SCDHEC defines a lead-based paint as any paint containing lead at concentrations equaling 0.7 mg/cm² or greater by XRF testing. For the purpose of the assessment, paint containing 0.7 mg/cm² or greater was considered lead-based paint due to the planned demolition and disposal activities.

The OSHA does not recognize a threshold level of lead for definition purposes, only the airborne concentration of lead a worker is exposed. The current OSHA regulations recognize an airborne action level of 30 micrograms per cubic meter (µg/m³) during an eight-hour day and a permissible exposure limit of 50 µg/m³.

4.0 Findings and Results

4.1 Asbestos Containing Materials

The suspect ACMs sampled as part of the assessment of the referenced structure consist of concrete and caulk associated with expansion joints, caulk/sealant associated with bridge columns, spray-applied texture, and mastic associated with reflective pavement markers.

Of the representative materials sampled and analyzed as part of the assessment, identified ACMs are summarized in Table 2 below:

Table 2: Summary of Confirmed ACMs

Material	HA	Location	Asbestos Type	Percent	Condition	Potential for Disturbance	¹ Approx. Quantity
Caulk/Sealant (black) associated with Bridge Columns at Sidewalk/Footer	CL	Base of Support Columns	Chrysotile	4	G, NF	PSD	72 LF

¹The quantities are estimated and should be field verified for bidding purposes.

Abbreviations:

HA = homogeneous area

SF = square feet

LF = linear foot

G = good

D = damaged

SD = significantly damaged

NF = non-friable

F = friable

LPD = low potential for disturbance

PD = potential for disturbance

PSD = potential for sig. disturbance



The identified caulk/sealant is classified as a Category I non-friable friable ACM in good condition with a potential for significant disturbance due to the planned demolition and disposal of the subject bridge. No asbestos, greater than one percent (>1%), was detected in the remaining bulk samples collected and analyzed.

The EPA, SCDHEC, and OSHA defines a material as an ACM if an asbestos content greater than one percent (>1%) is detected in a representative sample.

A summary of asbestos results is provided in Appendix I, and exhibits the sample number, location, type of material tested, approximate quantity of the material sampled, condition of the material, and corresponding result for each sample. A diagram of bulk sample locations is provided in Appendix II, and a copy of the inspectors' SCDHEC licenses are provided in Appendix III. A copy of the laboratory analyses and chain-of-custody records are provided in Appendix IV.

4.2 Lead

Based on the assessment and testing performed on May 7, 2023, of the suspect painted components associated with the referenced bridge, none exhibited lead concentrations meeting the SCDHEC disposal limit of 0.7 mg/cm². Low levels of lead were present which may be applicable to the standards of the OSHA 29 CFR 1926.62 (Lead in Construction) dependent upon the tasks impacting those surfaces.

The summary of XRF lead readings is provided in Appendix V and should be reviewed in full.

5.0 Conclusions and Recommendations

The asbestos and lead-based paint assessment performed on April 7, 2023, and May 7, 2023, of Bridge 08329 on I-526 Westbound over S-97 Long Point Road in Mount Pleasant, South Carolina identified the presence of Category I non-friable ACMs in good condition, with a potential for significant disturbance. Additionally, low levels of lead applicable to the standards of the OSHA were identified. This report should be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations.

5.1 Asbestos Recommendations

A notification of demolition, along with a copy of this report, must be submitted to the SCDHEC 10-weekdays prior to demolition activities. If additional suspect ACMs not addressed in this report will be disturbed by the planned demolition and disposal activities, bulk samples must be collected by a SCDHEC licensed inspector and analyzed for asbestos content prior to disturbance or disposal of the suspect materials.

5.2 Lead Recommendations

Destructive actions to materials containing detectable levels of lead (e.g. component removal, demolition, sanding, grinding, burning, paint preparation, etc.) will require the contractor comply with the standards of the OSHA regulation 29 CFR 1926.62 (Lead in Construction), including but not limited to training, initial exposure monitoring, the use of personal protective equipment, and medical surveillance.



Paint coatings may be present that contain low levels of lead that cannot be detected by X-ray fluorescence, and may be applicable to OSHA regulations 29 CFR 1926.62. The quantities reported by XRF may be useful in determining the relative risk associated with various demolition tasks, for example disturbances to paints with low lead levels may be less likely to result in airborne lead exposures in excess of the OSHA Action Level.

6.0 Assumptions and Limitations

This report is provided for the sole use of CDM Smith. Use of this report by any other parties will be at such party's sole risk, and S&ME disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the sampling period and of the specific areas referenced. Under no circumstances is this report to be used as a bidding document, or as a project design or specification.

S&ME performed the services in accordance with generally accepted practices of reputable environmental consultants undertaking similar studies at the same time and in the same geographical area. S&ME has endeavored to meet this standard of care. No other warranty, expressed or implied, is intended or made with respect to this report or S&ME's services. Users of this report should consider the scope and limitations related to these services when developing opinions as to risks associated with the site.

The findings of the asbestos assessment were based largely on visual observations within the amount of time available. The findings do not warrant that all asbestos-containing materials have been identified; suspect asbestos-containing materials may be present in areas not readily-accessible to observation. In addition, the actual locations and quantities of materials may vary from those herein. Apparent homogeneous sampling areas may vary in actual asbestos content due to previous renovations, maintenance or related operations. The possibility exists that suspect materials were undetected in inaccessible or concealed areas. If additional suspect materials are discovered during the planned destructive activities, samples must be collected and analyzed by qualified entities.

The findings of the lead-based paint assessment were based largely on visual observations within the amount of time available, and the specific number of areas analyzed. The findings do not warrant that all painted surfaces or materials containing lead have been identified; different underlying painted surfaces which contain lead could exist under similar top layers. Also, apparent similarly painted surfaces may vary in actual lead content.

Appendices

Appendix I – Summary of Asbestos Results



Table I: Summary of Asbestos Results

HA	Material Description	Material Location	² Approx. Quantity	Cat. (F/I/II)	Type	Condition/ Potential for Disturbance	Sample Number	Sample Location	¹ Type and Percent Asbestos
C	Concrete	Roadway	18,100 CF	F	Misc	NA	329-C-01	Roadway	ND
							329-C-02	Abutment	ND
							329-C-03	Column	ND
RC	Road Caulk	Expansion Joint at Asphalt	110 LF	NF Cat I	Misc	NA	329-RC-01	Expansion Joint	ND
							329-RC-02	Expansion Joint	ND
							³ 329-RC-03	Expansion Joint	ND
CL	Column Mastic	Base of Support Columns	72 LF	NF Cat I	Misc	G, PSD	329-CL-01	West Column	Chrysotile 4
							329-CL-02	West Column	Chrysotile 4
							³ 329-CL-03	East Column	<i>Not Analyzed</i>
TX	Spray Applied Texture	Exterior of Columns	2,120 SF	F	Misc	NA	329-TX-01	West Column	ND
							329-TX-02	West Column	ND
							329-TX-03	East Column	ND
RM	Reflector Mastic (black)	Underneath Reflective Pavement Markers	9 SF	NF Cat I	Misc	NA	329-RM-01	Roadway	ND
							329-RM-02	Roadway	ND
							³ 329-RM-03	Roadway	ND

LF = linear feet

F= friable

NF = non-friable

Cat I = Category I

Cat II = Category II

Sur = Surfacing

TSI = Thermal System Insulation

G = good

D = damaged

SD = significantly damaged

Misc = Miscellaneous

PD = potential for disturbance

PSD = potential for significant disturbance

ND = No Asbestos Detected

NA = Not Applicable

EA = each

Bold = >1% asbestos

CF = cubic feet

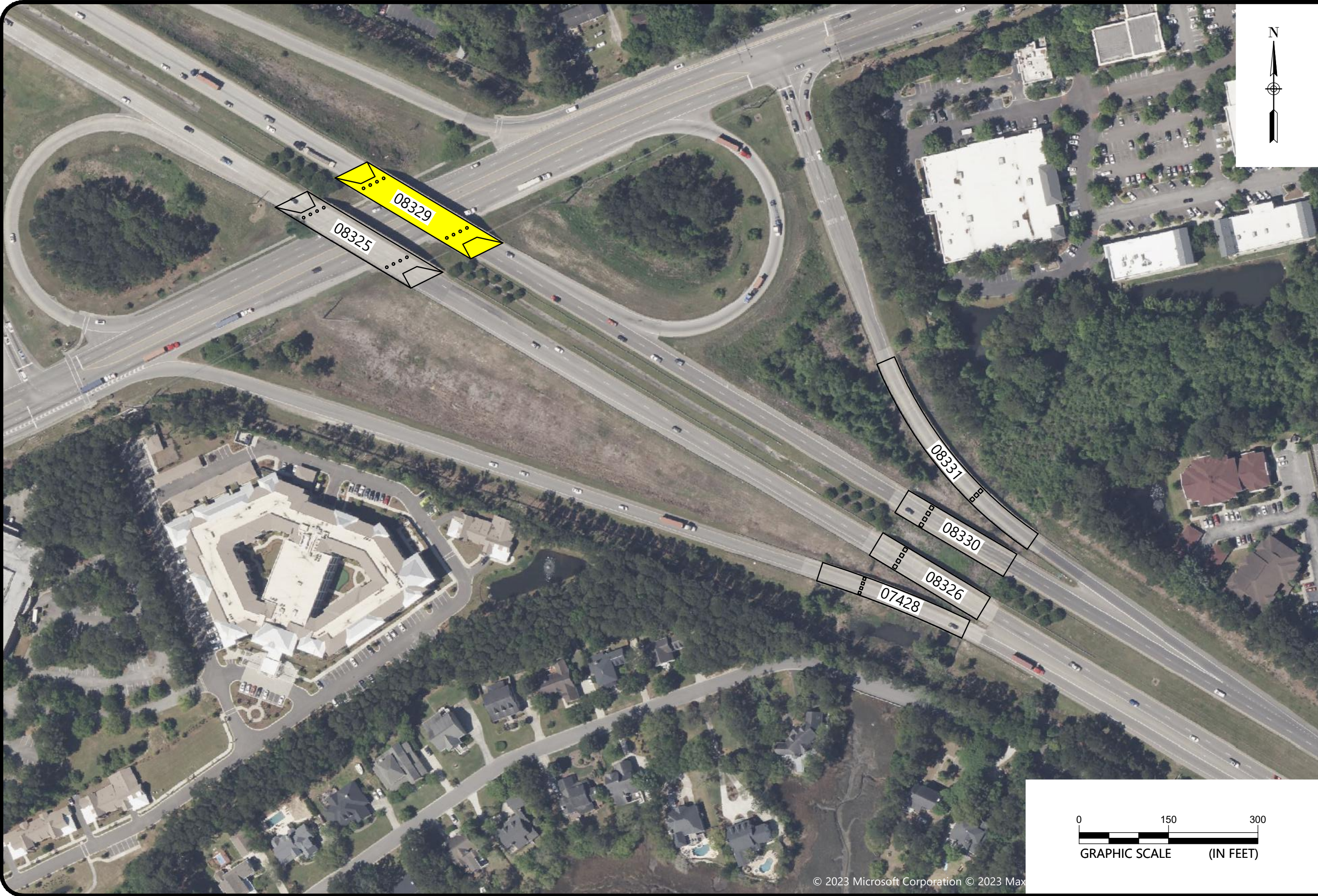
¹EPA, SCDHEC and OSHA defines a material as asbestos containing if an asbestos content greater than one percent (>1%) is detected in a representative sample

²Quantities are estimated, and should not be used for bidding purposes, as field conditions should be verified

³Samples analyzed by TEM to confirm negative results reported by PLM analysis

Appendix II – Diagram of Bulk Sample Locations and Confirmed ACMs

Z:\Shared\SME\Ops\Charleston-1130\Projects\2020\200424A_CDM Smith_I-526E Longpoint Road_Mount Pleasant SC\4 GEO\CAD\ENV\200424A.dwg



ASBESTOS AND LEAD-BASED PAINT ASSESSMENT

BRIDGE #08329
1-526 BRIDGES AND RAMPS
MOUNT PLEASANT, SOUTH CAROLINA

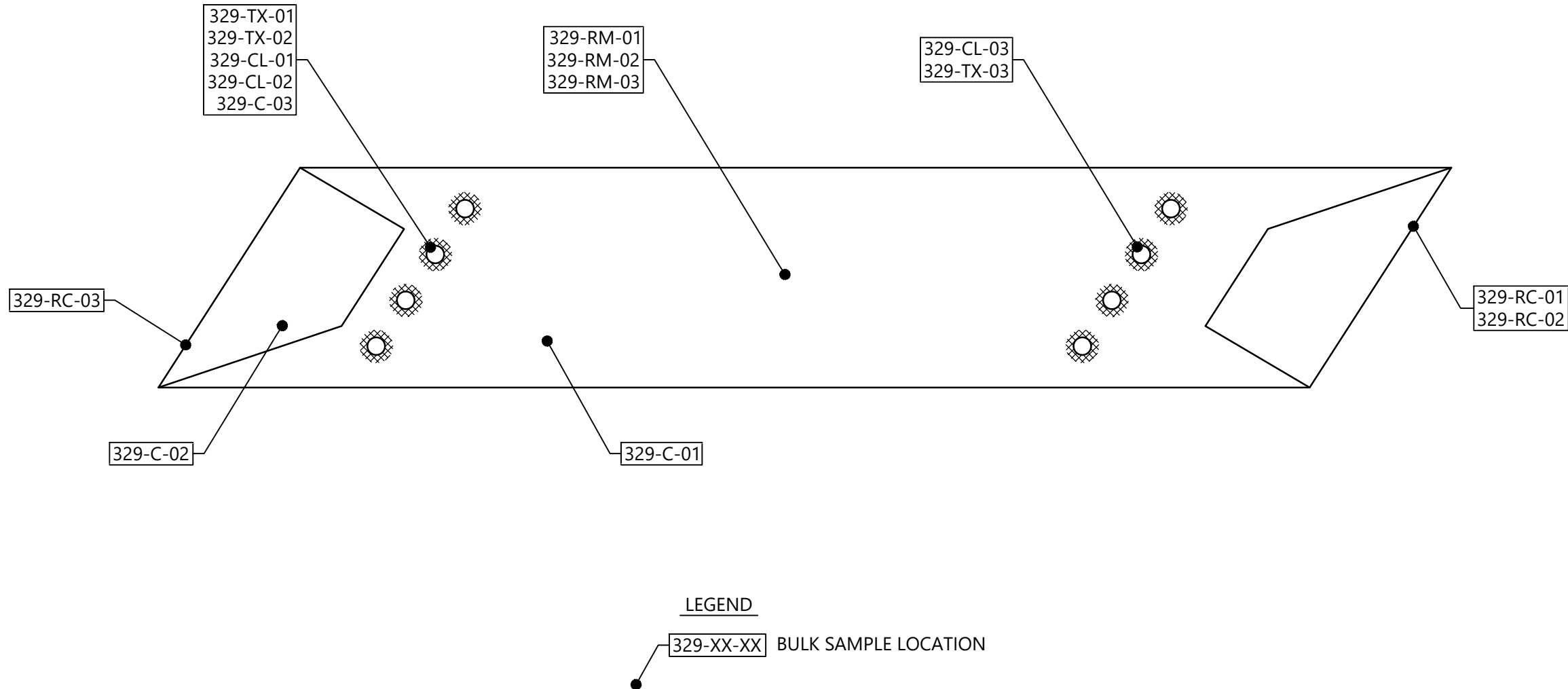
SCALE:
AS SHOWN

DATE:
5-25-2023


PROJECT NUMBER
200424A

FIGURE NO.

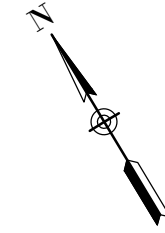
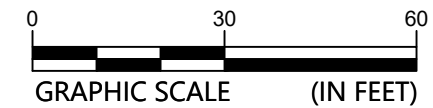
Z:\Shared\SME\Ops\Charleston-1130\Projects\2020\200424A_CDM Smith_I-526E Longpoint Road_Mount Pleasant SC\4 GEO\CAD\ENV\200424A.dwg



ASBESTOS CONTAINING MATERIALS

 CAULK/SEALANT (BLACK) ASSOCIATED WITH BRIDGE COLUMNS AT SIDEWALK/FOOTER APPROXIMATELY 72 LINEAR FEET

NOTE: NO LEAD CONCENTRATION MEETING IN THE SCDHEC DISPOSAL LIMIT OF 0.7 mg/cm² WAS IDENTIFIED IN THE SUBJECT AREA



ASBESTOS AND LEAD-BASED PAINT ASSESSMENT

BRIDGE #08329
1-526 BRIDGES AND RAMPS
MOUNT PLEASANT, SOUTH CAROLINA

SCALE:

AS SHOWN

DATE:

5-25-2023

PROJECT NUMBER

200424A

FIGURE NO.

2

Appendix III – Copy of Inspectors' SCDHEC Licenses



**South Carolina
Department of Health and Environmental Control**

Asbestos License

Bill Seaborn



*Air Sampler AS-00416
Building Inspector BI-01317*



**South Carolina
Department of Health and Environmental Control**

Asbestos License

John McEathron



*Air Sampler AS-000679
Building Inspector BI-002111*

Appendix IV – Laboratory Analysis Sheets and Chain of Custody Records



9751 Southern Pine Boulevard
Charlotte, NC 28273
704-940-1830 Fax 704-565-4929
NVLAP Lab Code 102075-0

POLARIZED LIGHT MICROSCOPY

Performed by EPA 600/R-93/116 Method

Asbestos Analysis Summary

Client Name Charleston Office

620 Wando Park Blvd.

Date Received 5/9/2023

Client Job I-526 Bridge 08329

Mt. Pleasant SC 29464

Date Analyzed 5/10/2023

Job Number 200424A

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
23-3558	329-C-01	GREY CEMENTITIOUS		ND		100 OTHER
23-3559	329-C-02	GREY CEMENTITIOUS		ND		100 OTHER
23-3560	329-C-03	GREY CEMENTITIOUS		ND		100 OTHER
23-3561	329-RC-01	GREY PLIABLE		ND		100 OTHER

Analyzed by: Jane Wasilewski

Additional Comments: Issued 5/10/23

Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested. The sample may not be fully representative of the larger material in question. This report shall not be reproduced except in full with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

Job Number 200424A

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
23-3562	329-RC-02	GREY PLIABLE		ND		100 OTHER
23-3564	329-RM-01	BLACK NONFIBROUS		ND		100 OTHER
23-3565	329-RM-02	BLACK NONFIBROUS		ND		100 OTHER
23-3567	329-CL-01	BLACK FIBROUS		4 CHRYSOTILE		96 OTHER
23-3568	329-CL-02	BLACK FIBROUS		4 CHRYSOTILE		96 OTHER
23-3570	329-TX-01	GREY NONFIBROUS		ND		100 OTHER


Analyzed by: Jane Wasilewski
Additional Comments: Issued 5/10/23



Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested. The sample may not be fully representative of the larger material in question. This report shall not be reproduced except in full with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

Job Number 200424A

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
23-3571	329-TX-02	GREY NONFIBROUS		ND		100 OTHER
23-3572	329-TX-03	GREY NONFIBROUS		ND		100 OTHER


Analyzed by: Jane Wasilewski
Additional Comments: Issued 5/10/23


Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested. The sample may not be fully representative of the larger material in question. This report shall not be reproduced except in full with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

BULK SAMPLE CHAIN OF CUSTODY RECORD



Page 1 of 1

PROJECT NO. 200424A		PROJECT NAME CDM Smith			RELINQUISHED BY: <i>[Signature]</i>		DATE 5-8-23	TIME 1130	RECEIVED BY: <i>[Signature]</i> 10:15 AM 5/9/23	
FACILITY I-526 Bridge 08329					RELINQUISHED BY:		DATE	TIME	RECEIVED BY:	
SAMPLER(S) B. Seaborn, J. McEathron				DATE TAKEN 5-7-23 + 4-7-23		RELINQUISHED BY:		DATE	TIME	RECEIVED BY:
SAMPLE #	HOMOGENEOUS AREA	MATERIAL TYPE	LAB NUMBER	DATE ANALYZED	ANALYSTS INITIALS	ASBESTOS + N/D	ARCHIVE NUMBER	DATE ARCH	ARCHIVERS INITIALS	SPECIAL INSTRUCTIONS
329-C-01	C	Concrete	23-3558							PLM
329-C-02	C	"	59							PLM
329-C-03	C	"	60							PLM
329-RC-01	RC	Road Caulk	61							PLM
329-RC-02	RC	"	62							PLM
329-RC-03	RC	"	63							TEM
329-RM-01	RM	Reflector	64							PLM
329-RM-02	RM	Mastic	65							PLM
329-RM-03	RM	"	66							TEM
329-CL-01	CL	Column	67							PLM
329-CL-02	CL	Mastic	68							PLM
329-CL-03	CL	"	69							TEM
329-TX-01	TX	Column	70							PLM
329-TX-02	TX	Texture	71							PLM
329-TX-03	TX	"	3572							PLM

ALL SAMPLES WILL BE DISPOSED OF NINETY DAYS AFTER ANALYSIS UNLESS OTHERWISE REQUESTED

MATERIAL TYPES

A - <4" Pipe Fitting
B - 4-8" Pipe Fitting
C - 9-14" Pipe Fitting
D - >14" Pipe Fitting
E - <4" Pipe
F - 4-8" Pipe

G - 9-14" Pipe
H - >14" Pipe
I - Spray-On/Trowel
J - Floor Tile
K - Tanks/Boiler
L - A>H>U> Insul.

M - A.H.U. Exp. Jt.
N - Ceiling/Wall Tile
O - Fiberboard
P - Other
(See notes-Front or back)

PLM TAT - 5 Days Hours Same Day
TEM TAT - 3 Days Hours Same Day
Do not run TEM if both PLMs are positive



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

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

EMSL Order: 412305058

Customer ID: SMEI54

Customer PO: 200424A (08329)

Project ID:

Attention: Jane Wasilewski
S&ME, Inc.
9771D Southern Pine Blvd.
Charlotte, NC 28273

Phone: (704) 940-1830
Fax: (704) 565-4929
Received Date: 05/10/2023 12:45 PM
Analysis Date: 05/11/2023
Collected Date:

Project: 200424A (08329)

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
329-RC-03 412305058-0001	Caulk	Brown/Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
329-RM-03 412305058-0002	Mastic	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Derrick Young (2)

Lee Plumley, 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. Pineville, NC

Initial report from: 05/12/2023 08:01:49



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

412305058

EMSL ANALYTICAL, INC.
10801 SOUTHERN LOOP BLVD
PINEVILLE, NC 28134
PHONE: 704-525-2205
FAX: 704-525-2382

Company : S&ME Inc. Street: 9751 Southern Pine Blvd. City: Charlotte State/Province: NC Report To (Name): Jane Wasilewski Email Address: jwasilewski@smelnc.com Project Name/Number: U.S. State Samples Taken:		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> Zip/Postal Code: 28273 Country: Telephone #: 704-940-1830 Fax #: Purchase Order: Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
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 type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week <small>*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.</small>			
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 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"/> 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 CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> TEM Qual. via Filtration Technique <input type="checkbox"/> TEM Qual. via Drop-Mount Technique Other: <input type="checkbox"/>		<input 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:		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
329-RC-03	Caulk		
329-RM-03	Mastic		
Client Sample # (s):		Total # of Samples: 2	
Relinquished (Client): <i>[Signature]</i>		Date: 5/10/23 Time:	
Received (Lab): <i>[Signature]</i>		Date: 5/10/23 Time: 1245pm W/12	
Comments/Special Instructions: ***EMAIL INVOICE TO: smeinc_invoice@concursolutions.com with this contact printed on the invoice: Terry Richburg <div style="text-align: center; font-size: 1.2em;">200424A-(083-29)</div>			

Appendix V – Summary of XRF Lead Analyzer Readings



XLN No.	Site	Floor	Side	Room	Structure	Component	Substrate	Color	Condition	Results	Action Level	Lead	Units
1									Calibration			0.9	mg/cm ²
2									Calibration			1	mg/cm ²
3									Calibration			0.8	mg/cm ²
4	Bridge 08329	1	A	Exterior	Beam		Metal	Grey	Non-deteriorated	NEG	0.7	0.3	mg/cm ²
5	Bridge 08329	1	C	Exterior	Beam		Metal	Grey	Non-deteriorated	NEG	0.7	0.3	mg/cm ²
6	Bridge 08329	1	D	Exterior	Column		Texture	White	Non-deteriorated	NEG	0.7	0	mg/cm ²
7	Bridge 08329	1	B	Exterior	Column		Texture	White	Non-deteriorated	NEG	0.7	0.1	mg/cm ²
8	Bridge 08329	1	C	Exterior	Beam		Metal	Grey	Non-deteriorated	NEG	0.7	0.1	mg/cm ²
9	Bridge 08329	1	C	Exterior	Beam		Metal	Grey	Non-deteriorated	NEG	0.7	0.2	mg/cm ²
10									Calibration			1	mg/cm ²
11									Calibration			1	mg/cm ²
12									Calibration			1	mg/cm ²
13									Calibration			1.2	mg/cm ²
14									Calibration			1.1	mg/cm ²
15									Calibration			1	mg/cm ²
16	Bridge 08329	1	A	Exterior	Roadbed	Road Lines	Concrete	Yellow	Non-deteriorated	NEG	0.7	0.2	mg/cm ²
17	Bridge 08329	1	C	Exterior	Roadbed	Road Lines	Concrete	White	Non-deteriorated	NEG	0.7	0.4	mg/cm ²
18									Calibration			1.2	mg/cm ²
19									Calibration			1.1	mg/cm ²
20									Calibration			1.1	mg/cm ²

The SCDHEC requires special disposal for paint containing lead ≥ 0.7 mg/cm²

The OSHA does not recognize a concentration of lead for definition purposes, only the airborne concentration a worker is exposed.

Bold = Lead results meeting or exceeding SCDHEC disposal level of 0.7 mg/cm²