

ASBESTOS SURVEY REPORT

KROGER STORE D-711 RENOVATION
7084 MILLER ROAD
SWARTZ CREEK, MICHIGAN

Prepared For:
THE KROGER CO.

Prepared By:
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
ST. LOUIS, MISSOURI

CEC Project No. 322-679.0001

JULY 22, 2022



Civil & Environmental Consultants, Inc.



July 22, 2022

Mr. Garret Foley
Regional Construction Manager
The Kroger Co.
40393 Grand River Avenue
Novi, Michigan 48375

RE: **Asbestos Survey Report**
Kroger Store D-711 Renovation
7084 Miller Road
Swartz Creek, Michigan
CEC Project No.: 322-679.0001

Dear Mr. Foley:

Civil & Environmental Consultants, Inc. (CEC) is pleased to present this Asbestos Survey Report for the above-referenced project. The asbestos survey was conducted in accordance with CEC Proposal No. 322-679.0001, and authorized via Kroger Purchase Order 490952, dated April 19, 2022. CEC conducted the asbestos survey on June 8, 2022.

CEC appreciates the opportunity to serve The Kroger Co. on this project. Please call us if we can be of any further assistance.

Sincerely,
Civil & Environmental Consultants, Inc.

Bryan N. Gatlin
Senior Environmental Scientist

Deborah J. Blankenship, RG, PG, CPG
Principal

cc: Cliff Brown, The Kroger Co.
Marty Cristo, The Kroger Co.
Peg Chandler, The Kroger Co.
Brett Smollen, The Kroger Co.

EXECUTIVE SUMMARY

Civil & Environmental Consultants, Inc. (CEC) was retained by The Kroger Co. to conduct an asbestos survey of the Kroger Store D-711 Renovation located at 7084 Miller Road in Swartz Creek, Michigan. The asbestos survey was conducted in accordance with CEC Proposal No. 322-679. Details are not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of this survey.

The subject property included Kroger Store D-711. Forty-two bulk samples of suspect asbestos-containing materials (ACMs) were collected during the inspection and submitted to an accredited laboratory for analysis by polarized light microscopy (PLM). Asbestos was not identified in the samples collected and analyzed.

It should be noted that suspect materials, other than those identified during this asbestos survey may exist within the subject property. Should suspect materials other than those which were identified during this survey be uncovered during demolition or renovation, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny asbestos content.

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1.0 INTRODUCTION

Civil & Environmental Consultants, Inc. (CEC) was retained by The Kroger Co. to conduct an asbestos survey of the Kroger Store D-711 Renovation located at 7084 Miller Road in Swartz Creek, Michigan (subject property). The survey was conducted in general accordance with CEC Proposal No. 322-679 and “The Kroger Co., Asbestos-Containing Materials Scope of Work and Report Requirements,” dated January 2022 (Kroger Scope of Work) and authorized via Kroger Purchase Order P.O. 490952, dated April 19, 2022. CEC understands that this asbestos survey was requested due to planned renovation of the subject property.

1.1 RELIANCE

This report has been prepared for the exclusive use and reliance of The Kroger Co. and Kroger’s affiliates and subsidiaries, who may solely rely upon the conclusions presented herein. Reliance on this asbestos survey report by the Users and all authorized parties will be subject to the terms, conditions and limitations stated in the Professional Service & Consulting Agreement (PSA) signed by Civil & Environmental Consultants, Inc. and the Kroger Co. General Offices (G.O.) on June 20, 2019. The use or reliance by a third party is not permitted without the specific written permission of both the CEC and The Kroger Co.

2.0 SUBJECT PROPERTY DESCRIPTION

The subject property consisted of Kroger Store D-711. The building was constructed in 2002, with an addition in 2008, and encompassed approximately 64,150 square-feet under roof. The building was constructed on a concrete slab foundation supporting concrete block and brick exterior walls, with metal roof joists and a corrugated metal roof deck. Interior finishes consisted of drywall and concrete block walls. Ceilings were suspended acoustical ceiling tiles or exposed roof joists. Floors were carpet, vinyl or ceramic tile, or concrete. The roofing system consisted of a ballasted rubber membrane over isocyanate panels and associated sealants.

The building was heated and cooled by forced-air roof top package units, with radiant natural-gas heating units in the loading dock. Ductwork throughout the building was insulated with non-suspect fiberglass insulation. Domestic water lines and refrigerant lines were insulated with non-suspect Armaflex insulation.

The Kroger Store consisted of a grocery sales area, department preparation areas, pharmacy, office area, and a warehouse.

3.0 FIELD ACTIVITIES

The survey was conducted by State of Michigan-licensed asbestos inspector, Mr. Bryan Gatlin of CEC on June 8, 2022. Mr. Gatlin was not escorted by Kroger during the survey. The survey was conducted in general accordance with the sample collection protocols established in EPA regulation 40 CFR 763, the Asbestos Hazard Emergency Response Act (AHERA). Inspector certification is contained in Appendix E. A summary of the survey activities is provided in the following subsections.

3.1 VISUAL ASSESSMENT

Survey activities began with a visual inspection of interior and exterior of the building to identify, document the location, condition and approximate quantities of suspect asbestos-containing materials (ACMs). Suspect ACMs were grouped into homogeneous areas. A homogeneous area consists of building materials that appear similar throughout in terms of color, texture and consideration of date of installation or application. Building materials identified as concrete, glass, wood, masonry, metal, rubber or silicone are not considered suspect ACM and, therefore, were not sampled. Also, if information was available to indicate a material did not contain asbestos (i.e., product label), the material was not sampled. Photographs of identified and/or assumed suspect ACMs are provided in Appendix A.

The inspection was limited to accessible areas. Destructive sampling (e.g., breaking into wall voids) was not conducted. However, CEC observed concrete block voids through existing holes and did not observe insulations or additional suspect materials. The roofing material was sampled during an asbestos survey conducted in April 2019. At the request of Mr. Garrett Foley of Kroger, the roofing system was not re-sampled as part of this survey.

CEC did not observe additional flooring layers unless mentioned in this report; however, as CEC could not assess beneath all floor covering in all areas, there may be isolated areas of additional suspect material present beneath existing flooring. Although reasonable effort was made to survey accessible suspect materials, additional suspect but un-sampled materials could be located in walls, in voids or in other concealed areas (e.g., locked doors, inaccessible attics).

3.2 BULK SAMPLE COLLECTION

Based on the findings of the visual inspection, bulk samples of suspect ACM were collected in general accordance with AHERA sample collection protocols. Each homogeneous area was categorized as: surfacing material (Surfacing), thermal system insulation (TSI), or miscellaneous material (Miscellaneous). Under AHERA the minimum number of bulk samples collected per category include:

- Surfacing
 - Less than 1,000 square feet: 3 samples
 - Between 1,000 and 5,000 square feet: 5 samples
 - Greater than 5,000 square feet: 7 samples
- Thermal System Insulation: 3 samples (less than 6 liner or square feet of a patch)
- Miscellaneous Material: in a manner sufficient to determine whether the material is ACM or not ACM. Typically, CEC collected 3 samples

Samples were collected from random locations, if possible, for each suspect homogeneous material identified. Samples were placed in sealable containers, labeled with unique sample numbers, using an indelible marker. Due to safety issues, suspect ACMs identified on electrical and mechanical equipment or systems, or confined spaces were not sampled as part of this survey.

Sample collection likely resulted in some isolated damage to building materials. However, damage was limited to the extent necessary for sample collection. If possible, CEC repaired sample locations, but did not return building materials to the original finish.

Forty-two bulk samples of suspect ACMs were collected during the inspection. Some bulk samples collected included multiple layers (e.g., floor tile and mastic). Bulk samples were collected of the following suspect materials: carpet mastic (three types), wall panel mastic (two types), door caulk, wood vinyl floor and mastic, 12" x 12" white tile and mastic, drywall and joint compound, seam sealer, expansion joint caulk (two types), and door caulk (two types).

A floor plan depicting approximate sample locations is presented as Figure 1, Asbestos Sample Location Map. An Asbestos Survey Sample Summary table with material descriptions, sample numbers, homogeneous area number, and sample location is contained in Appendix B.

3.3 SAMPLE ANALYSIS

Bulk samples were submitted under chain of custody to EMSL Analytical, Inc. (EMSL) in Indianapolis, Indiana, for analysis by polarized light microscopy (PLM) with dispersion staining techniques per EPA's Method for the Determination of Asbestos in Bulk Building Materials (600/R-93-116). The percentage of asbestos, where applicable, was established by microscopic visual estimation. EMSL is an accredited National Voluntary Laboratory Accreditation Program (NVLAP Accreditation No. 200188-0) laboratory. Laboratory analytical reports are contained in Appendix C.

3.4 BUILDING PLANS OR PRIOR REPORTS

Kroger provided a prior asbestos survey report for the building titled *Asbestos Survey Report, Kroger Store D-711 Renovation, 7084 Miller Road, Swartz Creek, Michigan*, dated May 14, 2019, and prepared by Wood Environment & Infrastructure Solutions, Inc (Wood). A total of 69 bulk samples were collected and submitted for analysis. Asbestos was not identified in the analysed samples. Information presented in the prior report is incorporated into this survey where appropriate. A copy of the Wood report is contained in Appendix D.

4.0 REGULATORY OVERVIEW

The State of Michigan Department of Environmental Quality (MDEQ), Air Division enforces the USEPA Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61, Subpart M). The Asbestos NESHAP regulates asbestos fiber emissions, asbestos waste disposal practices, and requires the identification and classification according to friability of existing ACM prior to demolition or renovation activity.

The Asbestos NESHAP regulation defines ACM as a material containing more than 1% asbestos. Friable ACM as any material containing more than 1% asbestos that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Non-friable materials when dry, cannot be may be crumbled, pulverized or reduced to powder by hand pressure. Category I non-friable ACMs are exclusively asbestos-containing packings, gaskets, resilient floor coverings, resilient floor covering mastics and asphalt roofing products that contain more than 1% asbestos. Category II non-friable ACMs are all other non-friable materials other than Category I non-friable ACM that contain more than 1% asbestos.

Friable ACM along with Category I and Category II non-friable ACM which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and could be crushed or pulverized during anticipated renovation or renovation activities are considered regulated ACM (RACM). RACM must be removed prior to renovation or demolition activities which will disturb the asbestos-containing materials.

The Occupational Safety and Health Administration (OSHA) asbestos standard for construction (29 CFR 1926.1101) regulates workplace exposure to asbestos. The OSHA standard requires that employee exposures to airborne asbestos fibers be maintained below 0.1 fiber per cubic centimeter of air (0.1 f/cc) as an eight hour-time weighted average (TWA) and not exceed 1.0 fibers per cubic centimeter of air (1. f/cc) over a 30-minute time period, the excursion limit. The TWA and excursion limit together are known as the OSHA permissible exposure limits or PELs. The OSHA standard classifies construction and maintenance activities which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work.

Asbestos abatement notifications for all demolition and renovation activities involving the removal or disturbance of RACM and non-friable ACMs should be submitted to the Michigan Department of Environmental Quality (MDEQ) and LARA at least 10-working days prior to the commencement of project activities. If remodeling/renovation efforts include repair, removal or replacement of “load bearing” structural members, this is considered demolition and a 10-day notification to the local municipal agency may be required.

5.0 FINDINGS AND RECOMMENDATIONS

5.1 FINDINGS

CEC conducted an asbestos survey of the Kroger Store D-711 Renovation located at 7084 Miller Road in Swartz Creek, Michigan. The subject property consisted of Kroger Store D-711. Forty-two bulk samples of suspect ACMs were collected during the inspection and submitted to an accredited laboratory for analysis by PLM. Asbestos was not identified in the samples collected and analyzed.

5.2 RECOMMENDATIONS

Based on the results of this asbestos survey, CEC does not recommend additional inspection or assessment activities for the subject property. However, suspect materials, other than those identified during this asbestos survey may exist within the building. Should suspect materials other than those which were identified during this survey be uncovered during demolition or renovation, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny asbestos content.

6.0 GENERAL COMMENTS

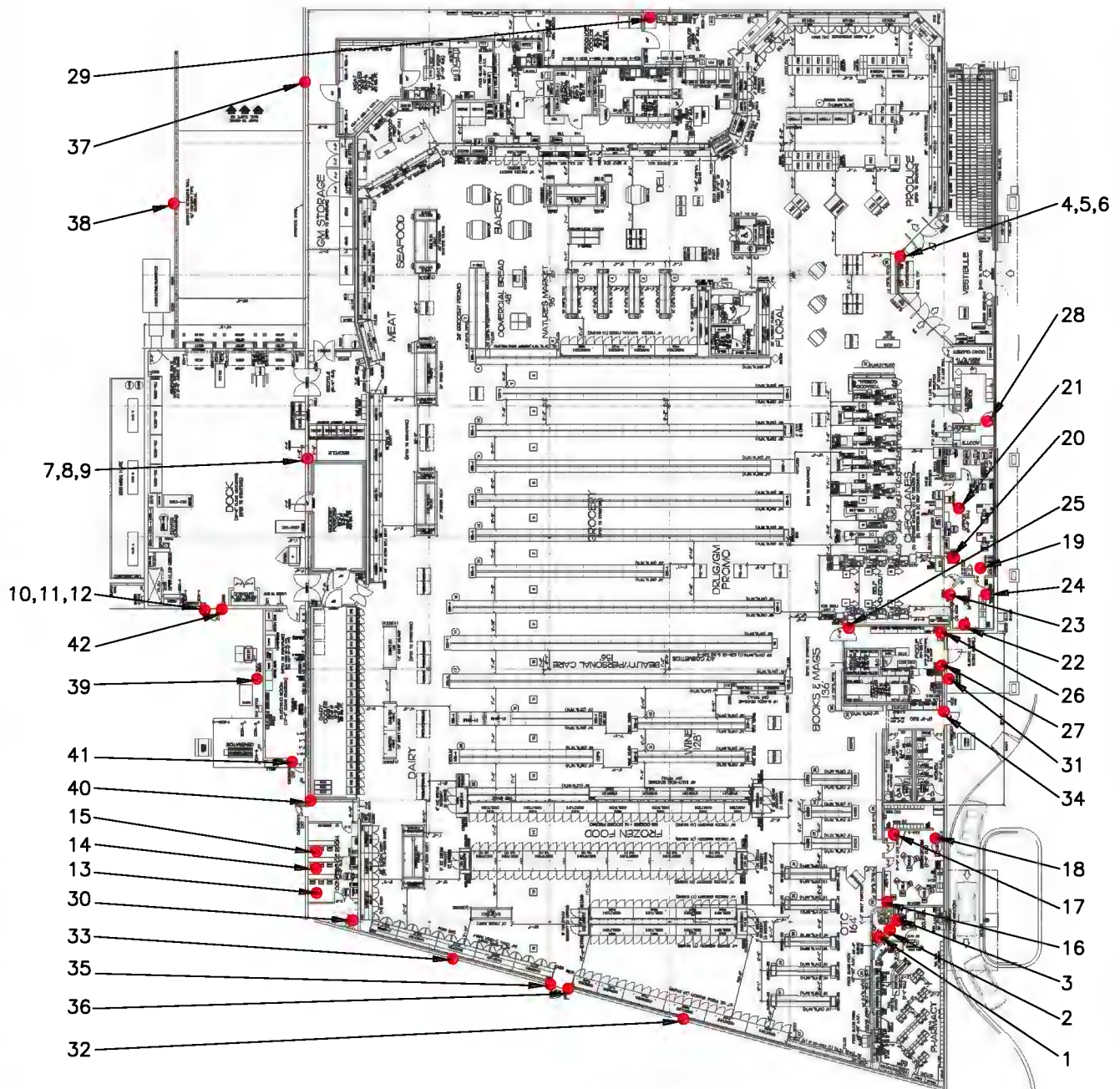
This asbestos survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the subject property building. The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date.

This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. CEC does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied is made.

FIGURES



NORTH



Civil & Environmental Consultants, Inc.

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THE KROGER CO.
KROGER STORE D-711 RENOVATION
7084 MILLER ROAD
SWARTZ CREEK, MICHIGAN

ASBESTOS SAMPLE LOCATION MAP

DRAWN BY:	CSL	CHECKED BY:	BNG	APPROVED BY:	DJB	FIGURE NO.:	1
DATE:	JUNE 10, 2022	DWG SCALE:	NOT TO SCALE	PROJECT NO:	322-679		

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

**Photographic Documentation
Kroger Store D-711 Renovation
Swart Creek, Michigan
Project No. 322-679.0001**

Photograph No. 1

Description:

View of Kroger Store
D-711.

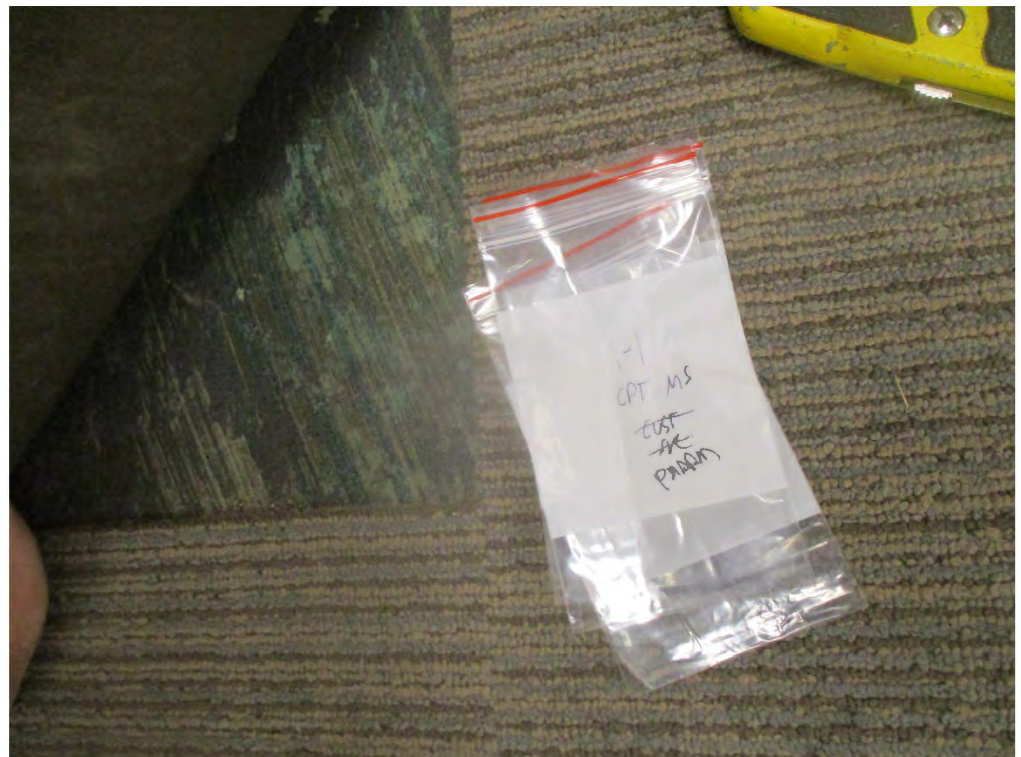


Photograph No. 2

Description:

View of HA-1

Non-ACM
Carpet mastic.



**Photographic Documentation
Kroger Store D-711 Renovation
Swart Creek, Michigan
Project No. 322-679.0001**

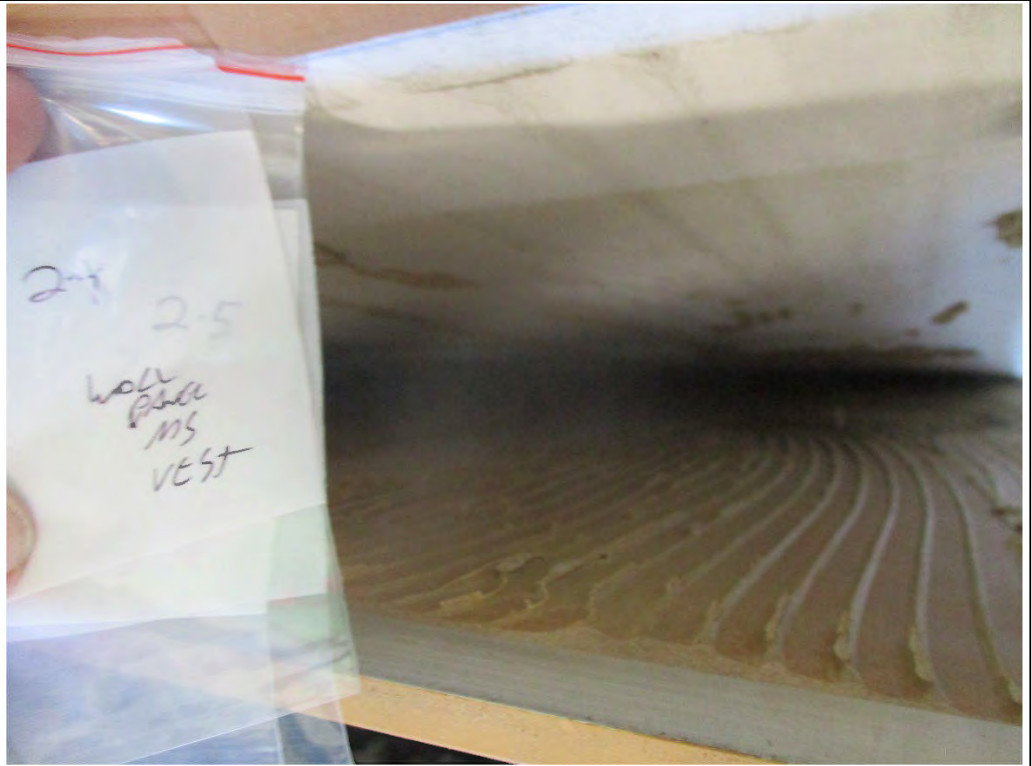
Photograph No. 3

Description:

View of HA-2

Non-ACM

Wall panel mastic.



Photograph No. 4

Description:

View of HA-3

Non-ACM

Wall panel mastic.



**Photographic Documentation
Kroger Store D-711 Renovation
Swart Creek, Michigan
Project No. 322-679.0001**

Photograph No. 5

Description:

View of HA-5

Non-ACM
Carpet mastic.



Photograph No. 6

Description:

View of HA-6

Non-ACM
Wood vinyl flooring
over white vinyl floor
tile.



**Photographic Documentation
Kroger Store D-711 Renovation
Swart Creek, Michigan
Project No. 322-679.0001**

Photograph No. 7

Description:

View of HA-7

Non-ACM
Carpet mastic.



Photograph No. 8

Description:

View of HA-8

Non-ACM
12" x 12" White vinyl
floor tile and mastic.



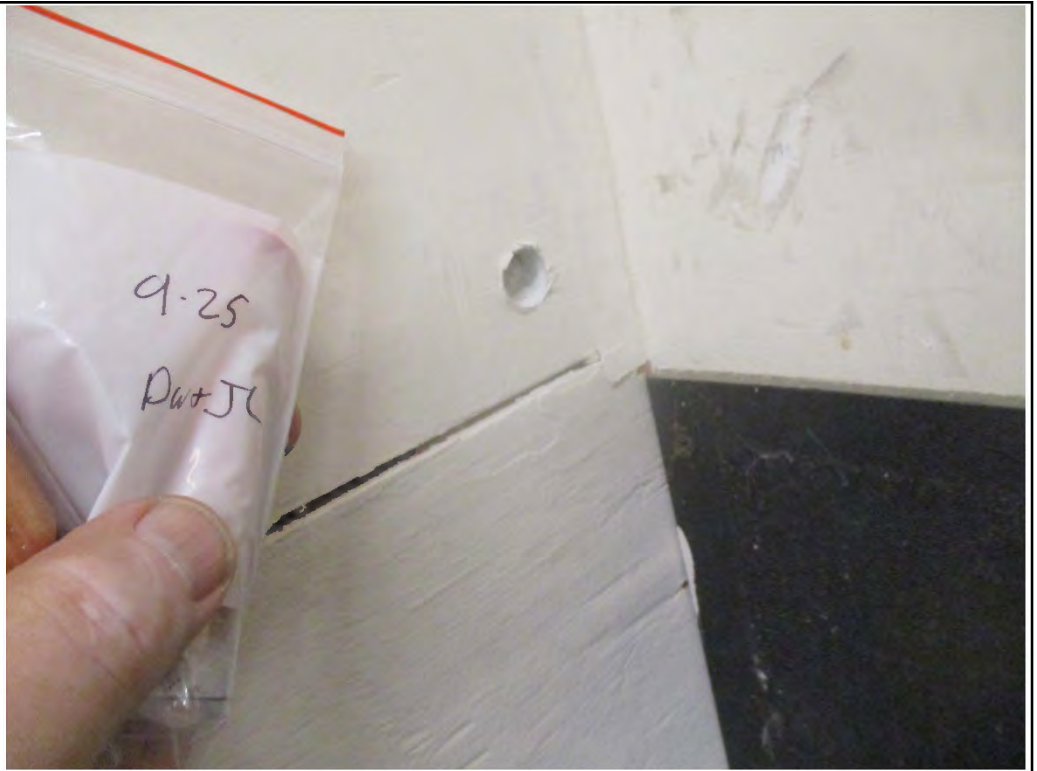
**Photographic Documentation
Kroger Store D-711 Renovation
Swart Creek, Michigan
Project No. 322-679.0001**

Photograph No. 9

Description:

View of HA-9

Non-ACM
Drywall and joint
compound.



Photograph No. 10

Description:

View of HA-10

Non-ACM
Seam sealer.



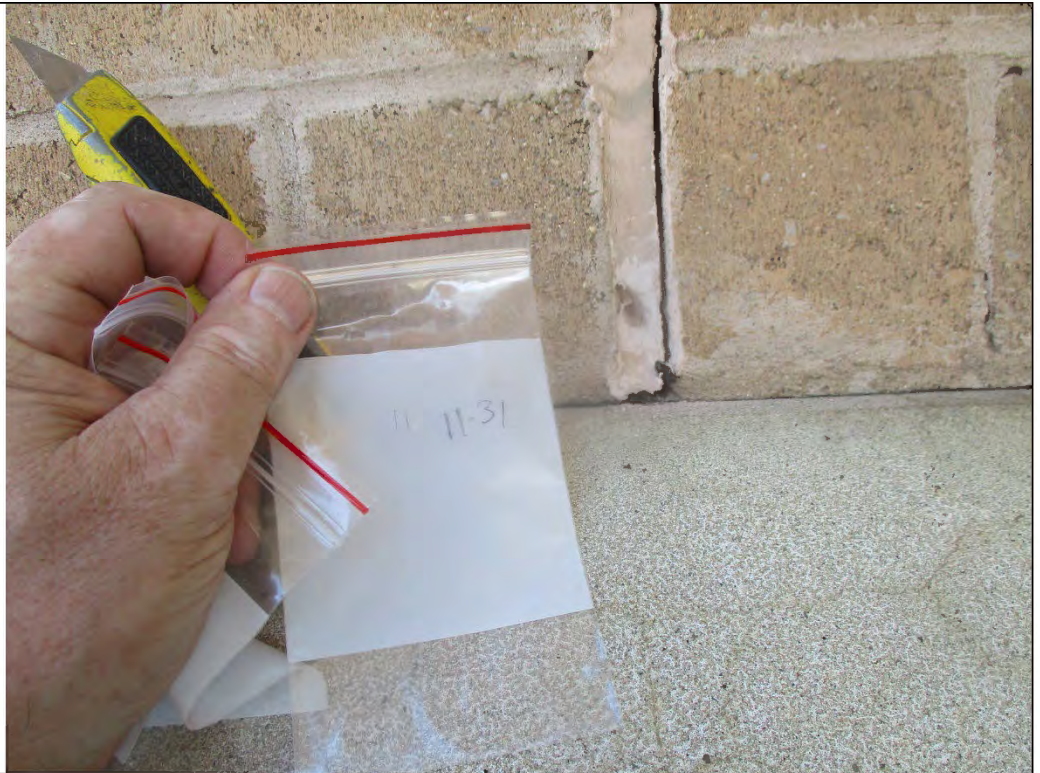
**Photographic Documentation
Kroger Store D-711 Renovation
Swart Creek, Michigan
Project No. 322-679.0001**

Photograph No. 11

Description:

View of HA-11

Non-ACM
Expansion joint caulk.



Photograph No. 12

Description:

View of HA-12

Non-ACM
Door caulk.



**Photographic Documentation
Kroger Store D-711 Renovation
Swart Creek, Michigan
Project No. 322-679.0001**

Photograph No. 13

Description:

View of HA-13

Non-ACM
Expansion joint caulk.



Photograph No. 14

Description:

View of HA-14

Non-ACM
Door caulk.



APPENDIX B

ASBESTOS SURVEY SAMPLE SUMMARY

ASBESTOS SURVEY SAMPLE SUMMARY

Kroger Store D-711 Renovation

CEC Project No. 322-679.0001

HA	Sample No.	Description	Sample Location
1	1	Carpet mastic	Pharmacy
	2		Pharmacy
	3		Pharmacy
2	4	Wall panel mastic	Vestibule
	5		Vestibule
	6		Vestibule
3	7	Wall panel mastic	Recycle
	8		Recycle
	9		Recycle
4	10	Door caulk	Emergency door
	11		Emergency door
	12		Emergency door
5	13	Carpet mastic	Conference room
	14		Conference room
	15		Conference room
6	16	Wood vinyl floor / 12" x 12" White tile and mastic	Break room
	17		Break room
	18		Break room
7	19	Carpet mastic	Office
	20		Office
	21		Office
8	22	12" x 12" White floor tile and mastic	ECR room
	23		ECR room
	24		ECR room
9	25	Drywall and joint compound	Click list
	26		Click list
	27		Click list
10	28	Seam sealer	Roof
	29		Roof
	30		Roof
11	31	Expansion joint caulk	Front wall
	32		Side wall
	33		Side wall
12	34	Door caulk	Front door
	35		Side door
	36		Side door
13	37	Expansion joint caulk	Rear wall
	38		Rear wall
	39		Rear wall
14	40	Door caulk	Rear door
	41		Rear door
	42		Rear door

APPENDIX C

LABORATORY ANALYTICAL REPORT



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

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

EMSL Order: 162213121

Customer ID: CIVL78

Customer PO: 22-052

Project ID:

Attention: Bryan Gatlin

Civil & Environmental Consultants Inc.

3000 Little Hills Expressway, Suite 102

Saint Charles, MO 63301

Phone: (314) 656-4566

Fax: (314) 656-4595

Received Date: 06/10/2022 4:00 PM

Analysis Date: 06/16/2022

Collected Date: 06/08/2022

Project: 322-679.0001

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1-1 162213121-0001	Pharmacy - Carpet Mastic	Gray/Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1-2 162213121-0002	Pharmacy - Carpet Mastic	Gray/Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1-3 162213121-0003	Pharmacy - Carpet Mastic	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2-4 162213121-0004	Vestibule - Wall Panel Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2-5 162213121-0005	Vestibule - Wall Panel Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2-6 162213121-0006	Vestibule - Wall Panel Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-7 162213121-0007	Recycle - Wall Panel Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-8 162213121-0008	Recycle - Wall Panel Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-9 162213121-0009	Recycle - Wall Panel Mastic	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4-10 162213121-0010	Emg Door - Door Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4-11 162213121-0011	Emg Door - Door Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4-12 162213121-0012	Emg Door - Door Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5-13 162213121-0013	Conf Rm - Carpet Mastic	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5-14 162213121-0014	Conf Rm - Carpet Mastic	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5-15 162213121-0015	Conf Rm - Carpet Mastic	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-16-Vinyl Floor Tile 162213121-0016	Break Rm - Wood Vinyl Floor/White Tile + Ms	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/16/2022 21:03:13



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

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

EMSL Order: 162213121

Customer ID: CIVL78

Customer PO: 22-052

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
6-16-Floor Tile 162213121-0016A	Break Rm - Wood Vinyl Floor/White Tile + Ms	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-16-Mastic 162213121-0016B	Break Rm - Wood Vinyl Floor/White Tile + Ms	Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-17-Vinyl Floor Tile 162213121-0017	Break Rm - Wood Vinyl Floor/White Tile + Ms	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-17-Floor Tile 162213121-0017A	Break Rm - Wood Vinyl Floor/White Tile + Ms	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-17-Mastic 162213121-0017B	Break Rm - Wood Vinyl Floor/White Tile + Ms	Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-18-Vinyl Floor Tile 162213121-0018	Break Rm - Wood Vinyl Floor/White Tile + Ms	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-18-Floor Tile 162213121-0018A	Break Rm - Wood Vinyl Floor/White Tile + Ms	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6-18-Mastic 162213121-0018B	Break Rm - Wood Vinyl Floor/White Tile + Ms	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
7-19 162213121-0019	Office - Carpet Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
7-20 162213121-0020	Office - Carpet Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
7-21 162213121-0021	Office - Carpet Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8-22-Floor Tile 162213121-0022	ECR Rm - 12"x12" White Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8-22-Mastic 162213121-0022A	ECR Rm - 12"x12" White Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8-23-Floor Tile 162213121-0023	ECR Rm - 12"x12" White Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8-23-Mastic 162213121-0023A	ECR Rm - 12"x12" White Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8-24-Floor Tile 162213121-0024	ECR Rm - 12"x12" White Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8-24-Mastic 162213121-0024A	ECR Rm - 12"x12" White Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9-25-Drywall 162213121-0025	Clicklist - Drywall + Joint Compound	Brown/White Fibrous Heterogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (Other)	None Detected
9-25-Joint Compound 162213121-0025A	Clicklist - Drywall + Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/16/2022 21:03:13



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

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EMSL Order: 162213121

Customer ID: CIVL78

Customer PO: 22-052

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
9-26-Drywall 162213121-0026	Clicklist - Drywall + Joint Compound	Brown/White Fibrous Heterogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (Other)	None Detected
9-26-Joint Compound 162213121-0026A	Clicklist - Drywall + Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9-27-Drywall 162213121-0027	Clicklist - Drywall + Joint Compound	Brown/White Fibrous Heterogeneous	15% Cellulose <1% Glass	65% Gypsum 20% Non-fibrous (Other)	None Detected
9-27-Joint Compound 162213121-0027A	Clicklist - Drywall + Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10-28 162213121-0028	Roof - Seam Sealer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10-29 162213121-0029	Roof - Seam Sealer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10-30 162213121-0030	Roof - Seam Sealer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-31 162213121-0031	Front Wall - Expansion Joint Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-32 162213121-0032	Side Wall - Expansion Joint Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-33 162213121-0033	Side Wall - Expansion Joint Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12-34 162213121-0034	Front Door - Door Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12-35 162213121-0035	Side Door - Door Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12-36 162213121-0036	Side Door - Door Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13-37 162213121-0037	Rear Wall - Expansion Joint Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13-38 162213121-0038	Rear Wall - Expansion Joint Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13-39 162213121-0039	Rear Wall - Expansion Joint Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14-40 162213121-0040	Rear Doors - Door Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14-41 162213121-0041	Rear Doors - Door Caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14-42 162213121-0042	Rear Doors - Door Caulk	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/16/2022 21:03:13



EMSL Analytical, Inc.
6340 CastlePlace Dr. Indianapolis, IN 46250
Tel/Fax: (317) 803-2997 / (317) 803-3047
<http://www.EMSL.com / indianapolislabs@emsl.com>

EMSL Order: 1622213121
Customer ID: CIVL78
Customer PO: 22-052
Project ID:

Analyst(s)

Lauren Welch (18)

Maggie Hayden (36)

Melissa Newland

Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-triable 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. Indianapolis, IN NVLAP Lab Code 200188-0, AZ0939, CA 2575, CO AL-15132, TX 300262

Initial report from: 06/16/2022 21:03:13



EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

162213121

EMSL ANALYTICAL, INC.

6340 Castleplace Dr.

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Company Name: CEC, Inc.		EMSL Customer ID: CIVL78	
Street: 3000 Little Hills Expressway, Suite 102		City: St. Charles	State/Province: MO
Zip/Postal Code: 63301	Country: USA	Telephone #: 314-656-4566	Fax #:
Report To (Name): Bryan Gatlin		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: bgatlin@cecinc.com		Purchase Order: 22-052	
Project Name/Number: 322-679,0001		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: MICHIGAN		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input type="checkbox"/> Same <input checked="" 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 type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" 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 <input type="checkbox"/> 763 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 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: BRYAN GATLIN		Samplers Signature: [Signature]	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1-1	CORPOR MASTIC PHARMACY		6-8-22
-2	"		"
-3	"		"
2-4	WALL PANEL MASTIC VESTIBULE		"
-5	"		"
Client Sample # (s):		Total # of Samples: 42	
Relinquished (Client): [Signature]		Date: 6-9-22	Time: 3pm
Received (Lab): Bingham		Date: 6-10-22	Time: 4pm
Comments/Special Instructions: For samples with less than 1% - please reanalyze by point count analysis. You have authorization for samples which require gravimetric analysis.			



EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

D-711

13121

EMSL ANALYTICAL, INC
6340 Castleplace Dr.
Indianapolis, IN 46250
PHONE: (317) 803-2997
FAX: (317) 803-3047

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
2-6	WALL PANEL MDSAL VESTIB		6-8-22
3-7	WALL PANEL MDSAL RECYCLE		
-8		"	
-9		"	
4-10	DOOR CAULK GMA DOOR		
-11		"	
-12		"	
5-13	CARPET MDSAL CONF RM		
-14		"	
-15		"	
6-16	WOOD VINYL FLOOR / WHITE TILE BREAK RM		
-17		"	
-18		"	
7-19	CARPET MDSAL OFFICE		
-20		"	
-21	12' x 12' WHITE TILE		
8-22	2 ECR RM		
-23		"	
-24		"	
9-25	DRY WALL + JOINT COMPOUND CLOSET		
-26		"	
-27		"	
10-28	SEA M SEA LON ROOF		
*Comments/Special Instructions:			



EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

13121

EMSL ANALYTICAL, INC.

6340 Castleplace Dr.

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
10-29	SEAM SEALER ROOF		6-8-22
-30	1		
11-31	EXPANSION JOINT COULUR FRONT WALL		
-32	SIDE WALL		
-33	SIDE WALL		
12-34	DOOR COULUR FRONT DOOR		
-35	SIDE DOOR		
-36	"		
13-37	EXPANSION JOINT COULUR REAR WALL		
-38	"		
-39	"		
14-40	DOOR COULUR REAR DOORS		
-41	"		
-42	"		

*Comments/Special Instructions:

APPENDIX D

PREVIOUS REPORTS



**ASBESTOS SURVEY REPORT
Kroger Store D-711 Renovation
7084 Miller Road
Swartz Creek, Michigan**

**Wood Environment & Infrastructure Solutions, Inc.
15933 Clayton Road, Suite 215
Ballwin, MO 63011
www.woodplc.com**

Wood Project No. 242419052

May 14, 2019



May 14, 2019

Mr. William Ortiz
Regional Construction Manager
The Kroger Co.
40393 Grand River Avenue
Novi, Michigan 48375

RE: **Asbestos Survey Report
Kroger Store D-711 Renovation
7084 Miller Road
Swartz Creek, Michigan
Project No. 242419052**

Dear Mr. Ortiz:

Wood Environment & Infrastructure Solutions, Inc. (Wood) is pleased to present this Asbestos Survey Report for the above-referenced project. The asbestos survey was conducted in accordance with a Wood proposal dated March 6, 2019, and authorized via Kroger Purchase Order DO2980708, dated March 7, 2019. Wood conducted the asbestos survey on April 25, 2019.

Wood appreciates the opportunity to serve The Kroger Co. on this project. Please call us if we can be of any further assistance.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

A handwritten signature in blue ink that reads "Bryan N. Gatlin".

Bryan Gatlin
Sr. Environmental Scientist

A handwritten signature in blue ink that reads "Deborah J. Blankenship".

Deborah J. Blankenship, PG, CPG
Associate Geologist/Project Manager

cc: Keith Oliver, The Kroger Co.
Marty Cristo, The Kroger Co.
Peg Chandler, The Kroger Co.
Brett Smollen, The Kroger Co.



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FIGURES

Figure 1: Asbestos Sample Location Map

APPENDICES

APPENDIX A: Photographic Documentation
APPENDIX B: Asbestos Survey Sample Summary
APPENDIX C: Laboratory Analytical Report
APPENDIX D: Inspector Certification



EXECUTIVE SUMMARY

Wood Environment & Infrastructure Solutions, Inc. (Wood) was retained by The Kroger Co. to conduct an asbestos survey of the Kroger Store D-711 Renovation located at 7084 Miller Road in Swartz Creek, Michigan. The asbestos survey was conducted in accordance with Wood's proposal dated March 6, 2019. Details are not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of this survey.

The subject property included Kroger Store D-711. Sixty-nine bulk samples of suspect asbestos-containing materials (ACMs) were collected during the inspection and submitted to an accredited laboratory for analysis by polarized light microscopy (PLM). Asbestos was not identified in the samples collected and analyzed.

It should be noted that suspect materials, other than those identified during this asbestos survey may exist within the building. Should suspect materials other than those which were identified during this survey be uncovered during demolition or renovation, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny asbestos content.



1.0 INTRODUCTION

Wood Environmental & Infrastructure, Inc. (Wood) was retained by The Kroger Co. to conduct an asbestos survey of the Kroger Store D-711 Renovation located at 7084 Miller Road in Swartz Creek, Michigan. The survey was conducted in general accordance with Wood's proposal dated March 6, 2019 and "The Kroger Co., Asbestos-Containing Materials Scope of Work and Report Requirements," dated April 2018 (Kroger Scope of Work) and authorized via Kroger Purchase Order DO2980708, dated March 7, 2019. Wood understands that this asbestos survey was requested due to planned renovation of the subject property building.

1.1 Reliance

This report has been prepared for the exclusive use and reliance of The Kroger Co. and its subsidiaries and affiliates and its authorized representatives (Users), who may solely rely upon the conclusions presented herein. Reliance on this asbestos survey report by the Users and all authorized parties will be subject to the terms, conditions and limitations stated in the Master Service Agreement (MSA) No. 3268 signed by Wood Environmental & Infrastructure Solutions, Inc. (formerly, Amec Foster Wheeler Environment & Infrastructure) and the Kroger Co. General Offices (G.O.) on June 12, 2008.

2.0 SUBJECT PROPERTY DESCRIPTION

The subject property consisted of Kroger Store D-711. The building was constructed in 2002, with an addition in about 2008, and encompassed approximately 64,150 square-feet under roof. The building was constructed on a concrete slab foundation supporting concrete block and brick exterior walls, with metal roof joists and a corrugated metal roof deck. Interior finishes consisted of drywall and concrete block walls. Ceilings were suspended acoustical ceiling tiles or exposed roof joists. Floors were carpet, vinyl or ceramic tile, or concrete. The roofing system consisted of a ballasted rubber membrane over isocyanate panels and associated sealants.

The building was heated and cooled by forced-air roof top package units, with radiant natural-gas heating units in the loading dock. Ductwork throughout the building was insulated with non-suspect fiberglass insulation. Domestic water lines and refrigerant lines were insulated with non-suspect Armaflex insulation.

The Kroger Store consisted of a grocery sales area, department preparation areas, pharmacy, office area, and a warehouse. Mezzanine areas consist of an office area and a mechanical area.

3.0 FIELD ACTIVITIES

The survey was conducted by State of Michigan-licensed asbestos inspector, Mr. Jason Cunningham on April 25, 2019. Mr. Cunningham was not escorted during the survey. The survey was conducted in general accordance with the sample collection protocols established in EPA regulation 40 CFR 763, the Asbestos Hazard Emergency Response Act (AHERA). Inspector certification is contained in Appendix D. A summary of the survey activities is provided in the following subsections.

3.1 Visual Assessment

Survey activities began with a visual inspection of interior and exterior of each building and/or tenant suite to identify, document the location, condition and approximate quantities of suspect asbestos-containing materials (ACMs). Suspect ACMs were grouped into homogeneous areas. A homogeneous area consists of building materials that appear similar throughout in terms of color, texture and consideration of date of installation or application. Building materials identified as concrete, glass, wood, masonry, metal, rubber or silicone are not considered suspect ACM and, therefore, were not sampled. Also, if information was available to indicate a material did not contain asbestos (i.e., product label), the material was not sampled. Photographs of identified and/or assumed suspect ACMs are provided in Appendix A.

The inspection was limited to accessible areas. Destructive sampling (e.g., breaking into wall voids) was not conducted. However, Wood observed concrete block voids through existing holes and did not observe insulations or additional suspect materials. At the request of Mr. William Ortiz of Kroger, the roofing system was included as part of this survey.

Wood did not observe additional flooring layers unless mentioned in this report; however, as Wood could not assess beneath all floor covering in all areas, there may be isolated areas of additional suspect material present beneath existing flooring. Although reasonable effort was made to survey accessible suspect materials, additional suspect but un-sampled materials could be located in walls, in voids or in other concealed areas (e.g., locked doors, inaccessible attics).

3.2 Bulk Sample Collection

Based on the findings of the visual inspection, bulk samples of suspect ACM were collected in general accordance with AHERA sample collection protocols. Each homogeneous area was categorized as: surfacing material (Surfacing), thermal system insulation (TSI), or miscellaneous material (Miscellaneous). Under AHERA the minimum number of bulk samples collected per category include:

- Surfacing
 - Less than 1,000 square feet: 3 samples
 - Between 1,000 and 5,000 square feet: 5 samples
 - Greater than 5,000 square feet: 7 samples
- Thermal System Insulation: 3 samples (less than 6 liner or square feet of a patch)
- Miscellaneous Material: in a manner sufficient to determine whether the material is ACM or not ACM. Typically, Wood collected 3 samples

Samples were collected from random locations, if possible, for each suspect homogeneous material identified. Samples were placed in sealable containers, labeled with unique sample numbers, using an indelible marker. Due to safety issues, suspect ACMs identified on electrical and mechanical equipment or systems, or confined spaces were not sampled as part of this survey.

Sample collection likely resulted in some isolated damage to building materials. However, damage was limited to the extent necessary for sample collection. If possible, Wood repaired sample locations, but did not return building materials to the original finish. Roof sample locations were repaired by Kroger's roofing contractor following the survey.

Sixty-nine bulk samples of suspect ACMs were collected during the inspection. Some bulk samples collected included multiple layers (e.g., floor tile and mastic). Bulk samples were collected of the following suspect materials: ceramic tile grout, white window caulk, concrete floor joint filler, ceramic floor tile grout, terrazzo flooring, wall tile grout (two types), 2' x 4' Ceiling tile (two patterns), drywall and joint compound, 4-inch brown cove base and mastic, white caulk, expansion joint caulk, wallpaper adhesive, 4-inch gray cove base and mastic, 2' x 4' drywall ceiling tile, gray caulk on roof, roof caulk/flashing, roof asphalt sheeting, roof membrane and insulation, concrete floor slab, black window caulk, exterior expansion joint, and joint compound skim coat on exterior overhang.

A floor plan depicting approximate sample locations is presented as Figure 1, Asbestos Sample Location Map. An Asbestos Survey Sample Summary table with material descriptions, sample numbers, homogeneous area number, and sample location is contained in Appendix B.

3.3 Sample Analysis

Bulk samples were submitted under chain of custody to EMSL Analytical, Inc. (EMSL) in Indianapolis, Indiana, for analysis by polarized light microscopy (PLM) with dispersion staining techniques per EPA's Method for the Determination of Asbestos in Bulk Building Materials (600/R-93-116). The percentage of asbestos, where applicable, was established by microscopic visual estimation. EMSL is an accredited National Voluntary Laboratory Accreditation Program (NVLAP Accreditation No. 200188-0) laboratory. Laboratory analytical reports are contained in Appendix C.

3.4 Building Plans or Prior Reports

Kroger did not provide prior asbestos survey reports or an Operation and Maintenance Program for the subject property for review. Further, no as-built plans, construction plans, or material schedules were available for review.

4.0 REGULATORY OVERVIEW

The State of Michigan Department of Environmental Quality (MDEQ), Air Division enforces the USEPA Asbestos National Emission Standards for Hazardous Air Pollutants (NESAHP, 40 CFR Part 61, Subpart M). The Asbestos NESHAP regulates asbestos fiber emissions, asbestos waste disposal practices, and requires the identification and classification according to friability of existing ACM prior to demolition or renovation activity.

The Asbestos NESHAP regulation defines ACM as a material containing more than 1% asbestos. Friable ACM as any material containing more than 1% asbestos that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Non-friable materials when dry, cannot be may be crumbled, pulverized or reduced to powder by hand pressure. Category I non-friable ACMs are exclusively asbestos-containing packings, gaskets, resilient floor coverings, resilient floor covering mastics and asphalt roofing products that contain more than 1% asbestos. Category II non-friable ACMs are all other non-friable materials other than Category I non-friable ACM that contain more than 1% asbestos.



Friable ACM along with Category I and Category II non-friable ACM which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and could be crushed or pulverized during anticipated renovation or renovation activities are considered regulated ACM (RACM). RACM must be removed prior to renovation or demolition activities which will disturb the asbestos-containing materials.

The Occupational Safety and Health Administration (OSHA) asbestos standard for construction (29 CFR 1926.1101) regulates workplace exposure to asbestos. The OSHA standard requires that employee exposures to airborne asbestos fibers be maintained below 0.1 fiber per cubic centimeter of air (0.1 f/cc) as an eight hour-time weighted average (TWA) and not exceed 1.0 fibers per cubic centimeter of air (1. f/cc) over a 30-minute time period, the excursion limit. The TWA and excursion limit together are known as the OSHA permissible exposure limits or PELs. The OSHA standard classifies construction and maintenance activities which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work.

Asbestos abatement notifications for all demolition and renovation activities involving the removal or disturbance of RACM and non-friable ACMs should be submitted to the Michigan Department of Environmental Quality (MDEQ) and LARA at least 10-working days prior to the commencement of project activities. If remodeling/renovation efforts include repair, removal or replacement of "load bearing" structural members, this is considered demolition and a 10-day notification to the local municipal agency may be required.

5.0 FINDINGS AND RECOMMENDATIONS

5.1 Findings

Wood conducted an asbestos survey of the Kroger Store D-711 Renovation located at 7084 Miller Road in Swartz Creek, Michigan. The subject property consisted of Kroger Store D-711. Sixty-nine bulk samples of suspect ACMs were collected during the inspection and submitted to an accredited laboratory for analysis by PLM. Asbestos was not identified in the samples collected and analyzed.

5.2 Recommendations

Based on the results of this asbestos survey, Wood does not recommend additional inspection or assessment activities for the subject property building. However, suspect materials, other than those identified during this asbestos survey may exist within the building. Should suspect materials other than those which were identified during this survey be uncovered during demolition or renovation, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny asbestos content.

6.0 GENERAL COMMENTS

This report has been prepared for the exclusive use and reliance of The Kroger Co. and its subsidiaries and affiliates and its authorized representatives (Users), who may solely rely upon the conclusions presented herein. Reliance on this Asbestos Survey by the Users and all authorized parties will be subject to the terms, conditions and limitations stated in the Master Service Agreement (MSA) No. 3268 signed by Wood and the Kroger Co. General Offices (G.O.) on June 12, 2008. The use or reliance by a third party is not permitted without the specific written permission of both the Wood and Kroger.

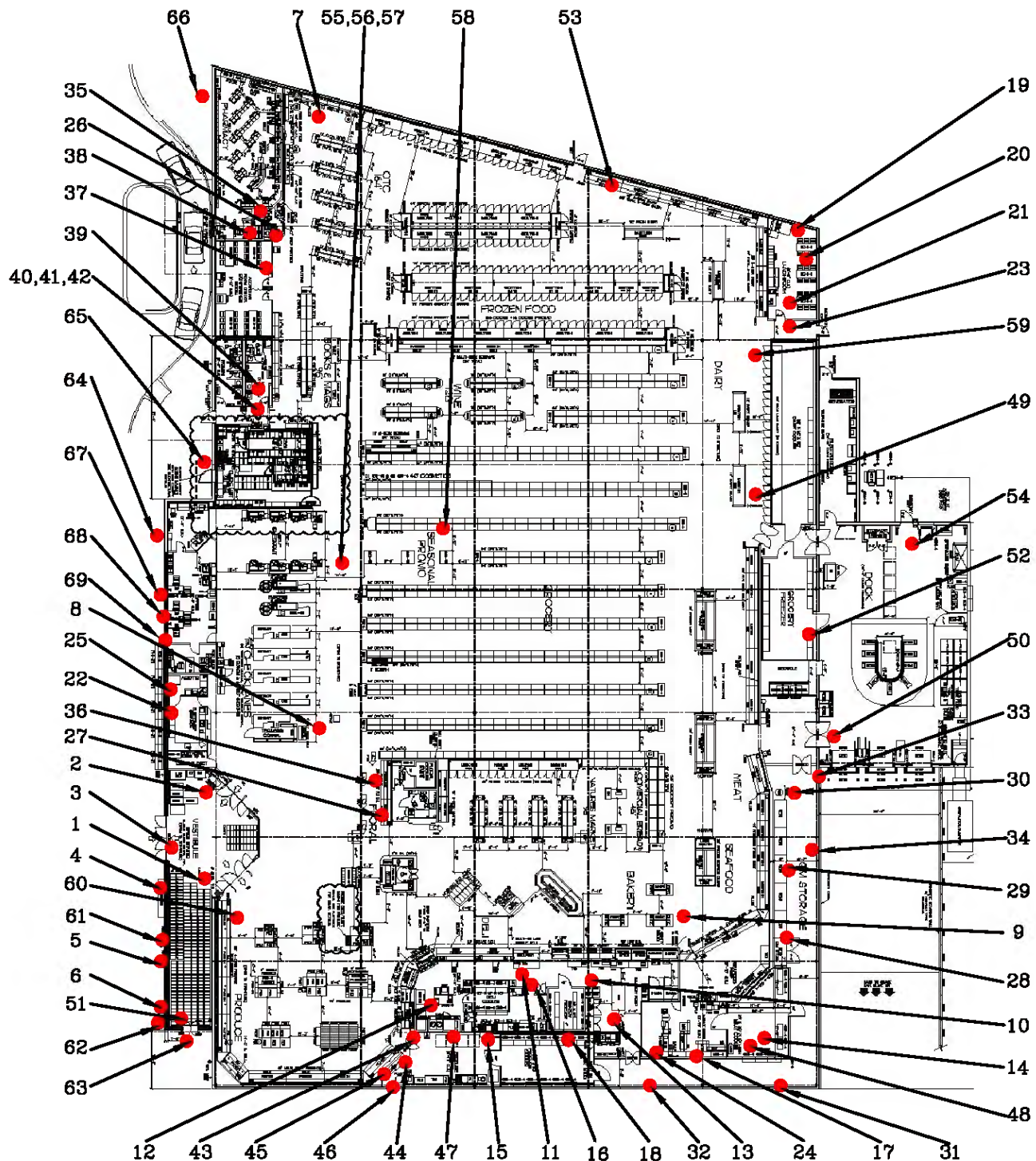
This asbestos survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the subject property building(s). The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date.

This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Wood does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied is made.



FIGURES

Figure 1: Asbestos Sample Location Map



ASBESTOS SAMPLE LOCATION MAP
KROGER STORE D-711 RENOVATION
7084 MILLER ROAD
SWARTZ CREEK, MICHIGAN

FIGURE 1

APPROX. SCALE:
PER BAR
SCALE

wood.

ENVIRONMENT &
INFRASTRUCTURE
SOLUTIONS, INC.

15933 CLAYTON ROAD
SUITE 215
BALLWIN, MO 63011

REFERENCE MAP

DRAWN BY:

DATE DRAWN:

PROJECT NO.

REVISION:

D-711 FIXTURE PLAN

D.BLANKENSHIP

5/8/19

242419052



APPENDIX A
Photographic Documentation

Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 1

Description:

View of Kroger Store D-711.



Photo No. 2

Description:

View of HA-2

Non-ACM
Gray ceramic floor tile
grout.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052

wood.

Photo No. 3

Description:

View of HA-3

Non-ACM
Concrete floor crack filler.

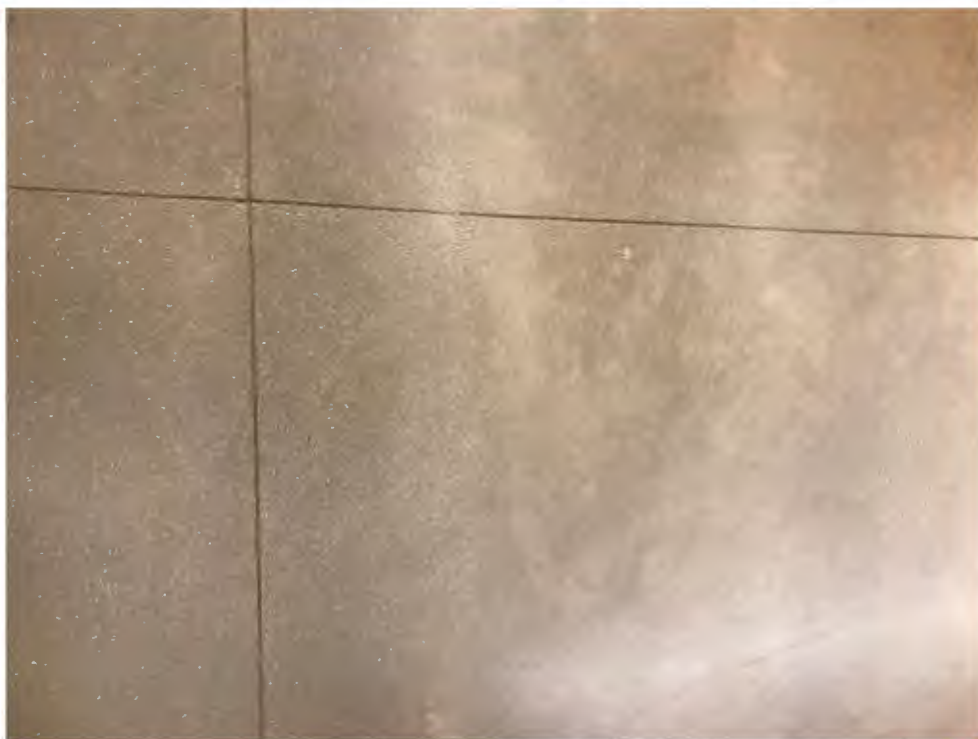


Photo No. 4

Description:

View of HA-4

Non-ACM
Ceramic floor tile grout.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 5

Description:

View of HA-5

Non-ACM

Terrazzo flooring.



Photo No. 6

Description:

View of HA-6

Non-ACM

Ceramic wall tile grout.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 7

Description:

View of HA-7

Non-ACM
2' x 4' Ceiling tile.

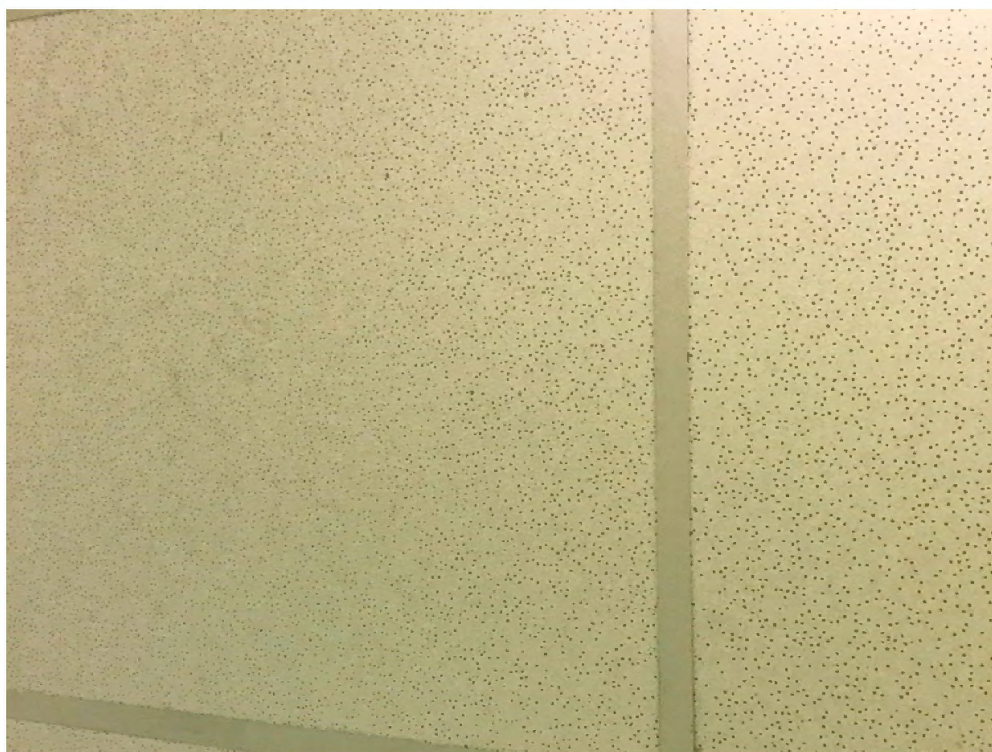


Photo No. 8

Description:

View of HA-8

Non-ACM
Drywall and joint compound.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 9

Description:

View of HA-9

Non-ACM
4-inch brown cove base
and mastic.



Photo No. 10

Description:

View of HA-10

Non-ACM
Caulk at wood on floor.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052

wood.

Photo No. 11

Description:

View of HA-11

Non-ACM
Expansion joint caulk.

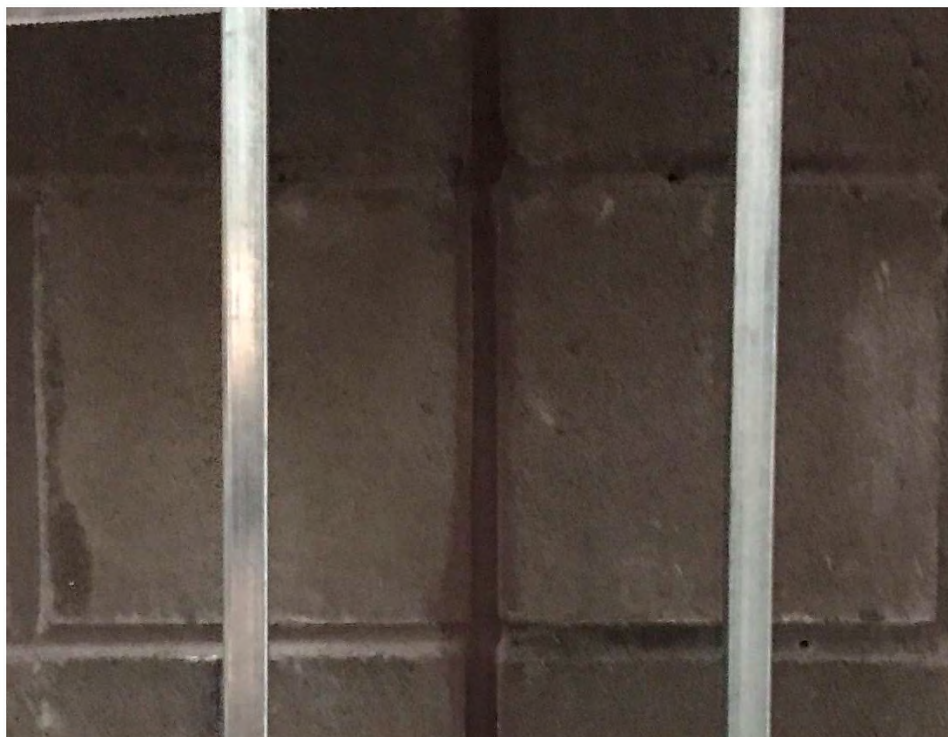
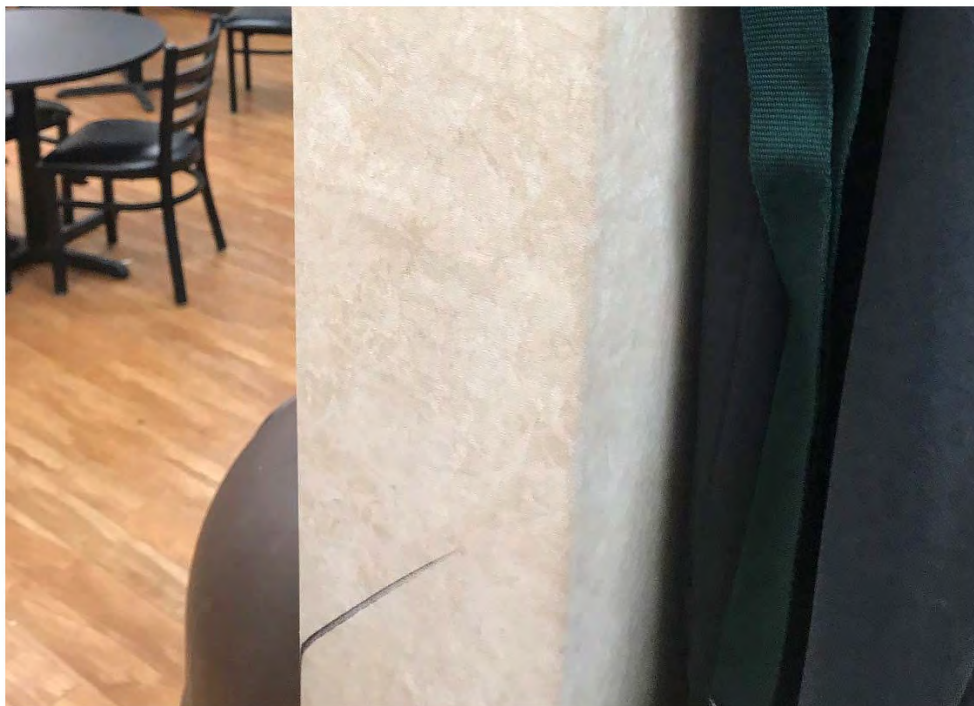


Photo No. 12

Description:

View of HA-12

Non-ACM
Wallpaper adhesive.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 13

Description:

View of HA-13

Non-ACM
2' x 4' "Divot" ceiling tile.

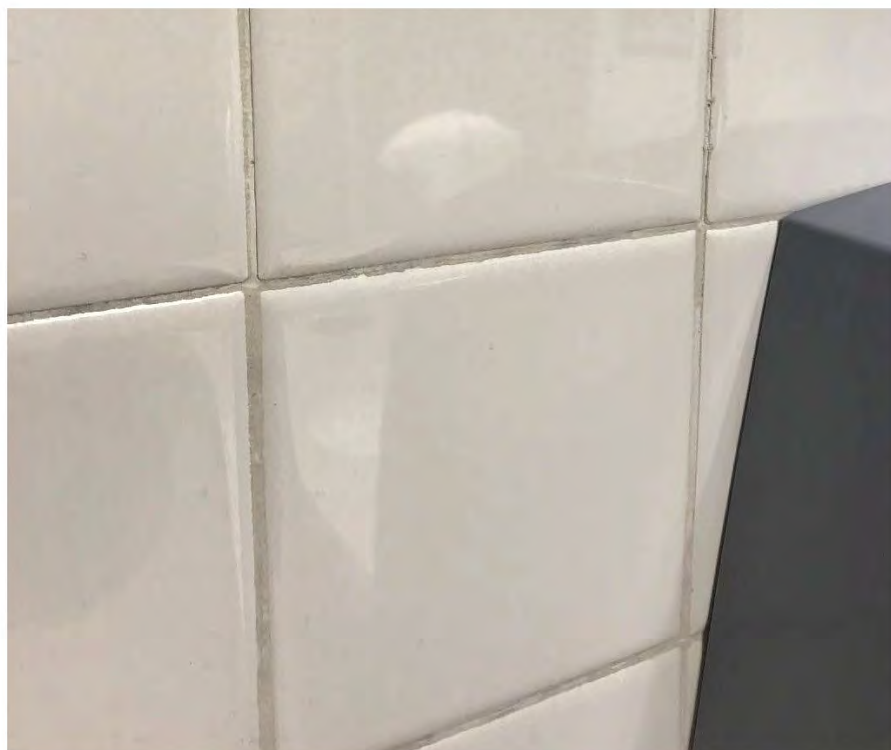


Photo No. 14

Description:

View of HA-14

Non-ACM
Ceramic wall tile grout.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052

wood.

Photo No. 15

Description:

View of HA-15

Non-ACM

Gray cove base and mastic.



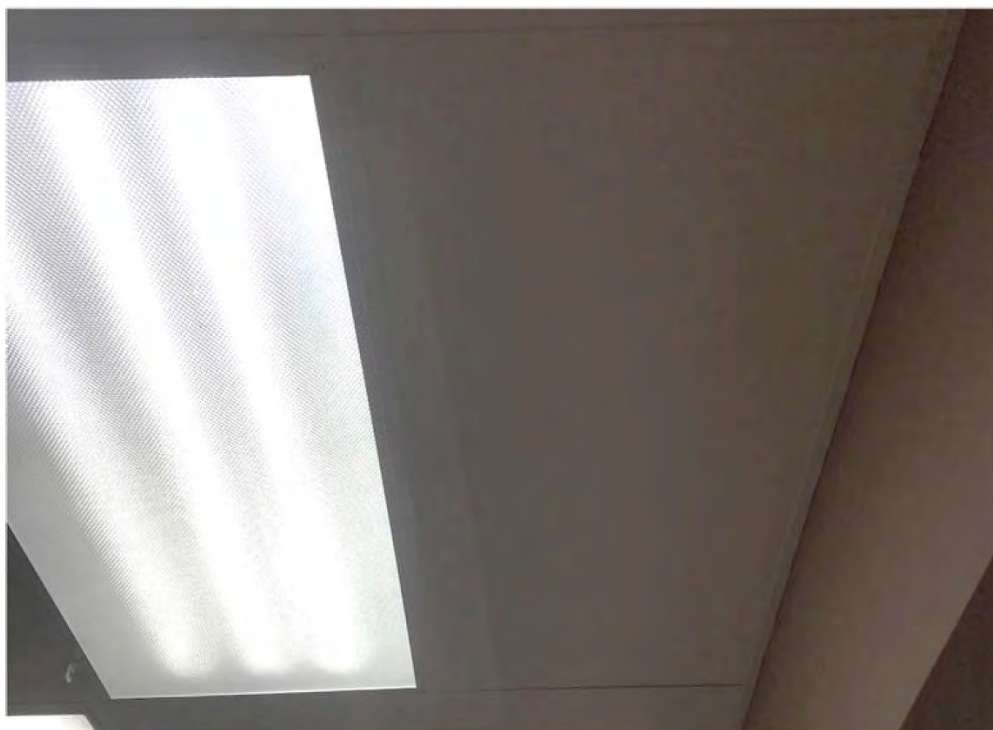
Photo No. 16

Description:

View of HA-16

Non-ACM

2' x 4' Drywall ceiling tile.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 17

Description:

View of HA-17

Non-ACM
Gray roof caulk.

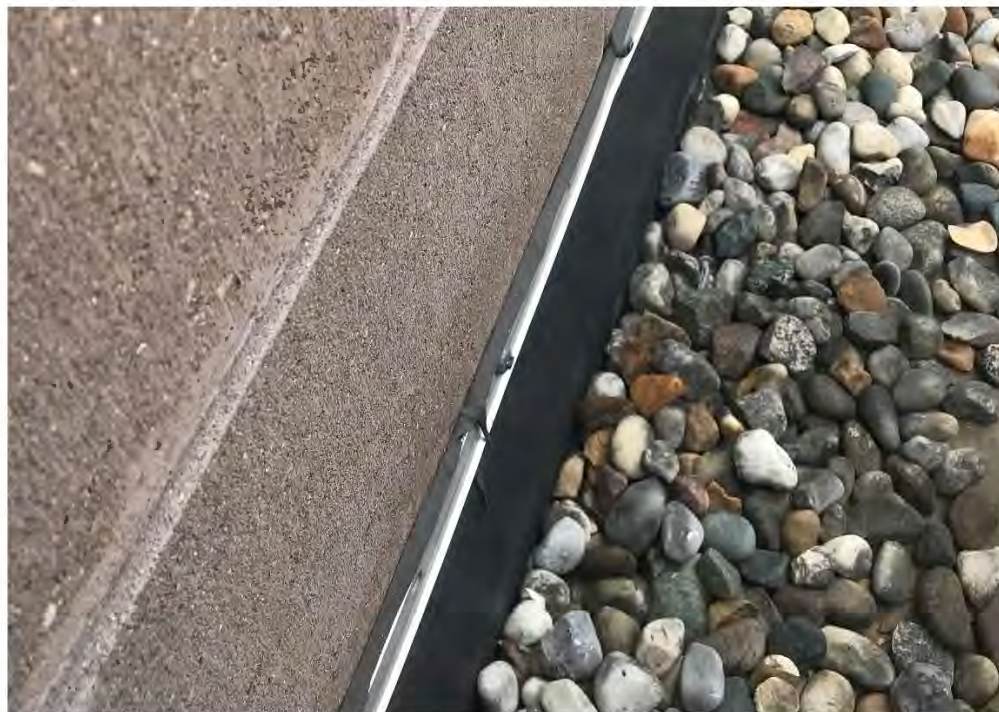


Photo No. 18

Description:

View of HA-18

Non-ACM
Brown roof caulk.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052

wood.

Photo No. 19

Description:

View of HA-19

Non-ACM
Asphaltic sheeting.



Photo No. 20

Description:

View of HA-20

Non-ACM
Roof membrane and
insulation.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 21

Description:

View of HA-21

Non-ACM
Concrete floor.



Photo No. 22

Description:

View of HA-22

Non-ACM
Black window caulk.



Photographic Documentation
Kroger Store D-711 Renovation
Swartz Creek, Michigan
Project No. 242419052



Photo No. 23

Description:

View of HA-23

Non-ACM
Expansion joint caulk.



Photo No. 24

Description:

View of HA-24

Non-ACM
Exterior overhang skim
coat.





APPENDIX B
Asbestos Survey Sample Summary



ASBESTOS SURVEY SAMPLE SUMMARY Kroger Store D-711 Renovation Wood Project No. 242419052			
HA	Sample No.	Description	Sample Location
1	1	Gray ceramic tile grout	Vestibule
	2		Vestibule
	3		Vestibule
2	4	White window caulk	Vestibule
	5		Vestibule
	6		Vestibule
3	7	Concrete floor crack filler	Pharmacy
	8		Checkout
	9		Fish
4	10	Ceramic floor tile grout	Deli
	11		Bakery
	12		Bakery
5	13	Terrazzo flooring	Deli
	14		Fish
	15		Meat prep
6	16	Ceramic wall tile grout	Bakery
	17		Meat
	18		Deli
7	19	2' x 4' Ceiling tile	Training room
	20		Training room
	21		Training room
8	22	Drywall and joint compound	Recycle
	23		Training room hallway
	24		Deli
9	25	4-inch brown cove base and mastic	Recycle
	26		Pharmacy
	27		Floral
10	28	Caulk at wood floor	GM storage
	29		Rear coolers
	30		Rear coolers
11	31	Expansion joint caulk	Warehouse
	32		Warehouse
	33		warehouse
12	34	Wallpaper adhesive	Employee lounge
	35		Pharmacy
	36		Floral
13	37	2' x 4' "Divot" ceiling tile	Employee lounge
	38		Pharmacy
	39		Rest room
14	40	4' x 4" White wall tile grout	Restroom
	41		Restroom
	42		Restroom
15	43	4" Gray cove base and mastic	Produce prep
	44		Produce prep
	45		Produce prep



ASBESTOS SURVEY SAMPLE SUMMARY Kroger Store D-711 Renovation Wood Project No. 242419052			
HA	Sample No.	Description	Sample Location
16	46	2' x 4' Drywall ceiling tile	Produce prep
	47		Deli
	48		Meat
17	49	Gray roof caulk	Roof
	50		Roof
	51		Roof
18	52	Brown roof caulk	Roof
	53		Roof
	54		Roof
19	55	Asphaltic sheeting	Roof
	56		Roof
	57		Roof
20	58	Roof membrane and insulation	Roof
21	59	Concrete floor	North portion of store
	60		South portion of store
22	61	Black window caulk	Exterior windows
	62		Exterior windows
	63		Exterior windows
23	64	Expansion joint caulk	Exterior
	65		Exterior
	66		Exterior
24	67	Exterior overhang skim coat	Exterior
	68		Exterior
	69		Exterior



APPENDIX C
Laboratory Reports



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

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

EMSL Order: 161908256

Customer ID: AMECMM25

Customer PO: C012608802

Project ID:

Attention: Kevin Arnold
Wood Env. & Infrastructure Solutions
15933 Clayton Road
Suite 215
Ballwin, MO 63011

Project: 2424-19-052 / Kroger D-711

Phone: (636) 200-5137

Fax:

Received Date: 05/02/2019 8:55 AM

Analysis Date: 05/07/2019 - 05/08/2019

Collected Date: 04/25/2019

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
01-001 <small>161908256-0001</small>	Tile Grout	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
01-002 <small>161908256-0002</small>	Tile Grout	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
01-003 <small>161908256-0003</small>	Tile Grout	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
02-004 <small>161908256-0004</small>	Caulk	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
02-005 <small>161908256-0005</small>	Caulk	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
02-006 <small>161908256-0006</small>	Caulk	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
03-007 <small>161908256-0007</small>	Joint Filler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
03-008 <small>161908256-0008</small>	Joint Filler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
03-009 <small>161908256-0009</small>	Joint Filler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
04-010 <small>161908256-0010</small>	Tile Grout	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
04-011 <small>161908256-0011</small>	Tile Grout	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
04-012-Grout <small>161908256-0012</small>	Tile Grout	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
04-012-Brick <small>161908256-0012A</small>	Tile Grout	Red Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
05-013 <small>161908256-0013</small>	Terra Flooring	Tan/Red Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
05-014 <small>161908256-0014</small>	Terra Flooring	Tan/Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
05-015 <small>161908256-0015</small>	Terra Flooring	Tan/Red Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected

Initial report from: 05/08/2019 13:32:50



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

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

EMSL Order: 161908256

Customer ID: AMECMM25

Customer PO: C012608802

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
06-016 161908256-0016	Tile Grout	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
06-017 161908256-0017	Tile Grout	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
06-018 161908256-0018	Tile Grout	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
07-019 161908256-0019	Ceiling Tile	Gray/White Fibrous Homogeneous	60% Cellulose 20% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
07-020 161908256-0020	Ceiling Tile	Gray/White Fibrous Homogeneous	60% Cellulose 20% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
07-021 161908256-0021	Ceiling Tile	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	15% Perlite 5% Non-fibrous (Other)	None Detected
08-022-Drywall 161908256-0022	Drywall - Mud - Tape	Brown/White Fibrous Heterogeneous	30% Cellulose 2% Glass	60% Gypsum 8% Non-fibrous (Other)	None Detected
08-022-Joint Compound 161908256-0022A	Drywall - Mud - Tape	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
08-022-Tape 161908256-0022B	Drywall - Mud - Tape	White/Red Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
08-023-Drywall 161908256-0023	Drywall - Mud - Tape	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
08-023-Joint Compound 161908256-0023A	Drywall - Mud - Tape	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
08-024-Drywall 161908256-0024	Drywall - Mud - Tape	Brown/White Fibrous Heterogeneous	30% Cellulose 2% Glass	60% Gypsum 8% Non-fibrous (Other)	None Detected
08-024-Joint Compound 161908256-0024A	Drywall - Mud - Tape	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09-025-Cove Base 161908256-0025	Cove Base & Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09-025-Mastic 161908256-0025A	Cove Base & Mastic	Tan/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09-026-Cove Base 161908256-0026	Cove Base & Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09-026-Mastic 161908256-0026A	Cove Base & Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09-027-Cove Base 161908256-0027	Cove Base & Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09-027-Mastic 161908256-0027A	Cove Base & Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 05/08/2019 13:32:50



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EMSL Order: 161908256

Customer ID: AMECMM25

Customer PO: C012608802

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10-028 161908256-0028	Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10-029 161908256-0029	Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10-030 161908256-0030	Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-031 161908256-0031	Caulk	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-032 161908256-0032	Caulk	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-033 161908256-0033	Caulk	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12-034 161908256-0034	Wall Paper - Mastic	White Fibrous Homogeneous	30% Synthetic	70% Non-fibrous (Other)	None Detected
12-035 161908256-0035	Wall Paper - Mastic	White Fibrous Homogeneous	30% Synthetic	70% Non-fibrous (Other)	None Detected
12-036 161908256-0036	Wall Paper - Mastic	White Fibrous Homogeneous	30% Synthetic	70% Non-fibrous (Other)	None Detected
13-037 161908256-0037	Ceiling Tile	Gray/White Fibrous Homogeneous	60% Cellulose 20% Min. Wool	15% Perlite 5% Non-fibrous (Other)	None Detected
13-038 161908256-0038	Ceiling Tile	Gray/White Fibrous Homogeneous	60% Cellulose 20% Min. Wool	15% Perlite 5% Non-fibrous (Other)	None Detected
13-039 161908256-0039	Ceiling Tile	Gray/White Fibrous Homogeneous	60% Cellulose 20% Min. Wool	15% Perlite 5% Non-fibrous (Other)	None Detected
14-040 161908256-0040	Tile Grout	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14-041 161908256-0041	Tile Grout	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14-042 161908256-0042	Tile Grout	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15-043-Cove Base 161908256-0043	Cove Base - Black	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15-043-Mastic 161908256-0043A	Cove Base - Black	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15-044-Cove Base 161908256-0044	Cove Base - Black	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15-044-Mastic 161908256-0044A	Cove Base - Black	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 05/08/2019 13:32:50



EMSL Analytical, Inc.

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EMSL Order: 161908256

Customer ID: AMECMM25

Customer PO: C012608802

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
15-045-Cove Base <i>161908256-0045</i>	Cove Base - Black	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15-045-Mastic <i>161908256-0045A</i>	Cove Base - Black	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16-046 <i>161908256-0046</i> <i>Inseparable paint / coating layer included in analysis</i>	Ceiling Tile	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
16-047 <i>161908256-0047</i>	Ceiling Tile	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
16-048 <i>161908256-0048</i>	Ceiling Tile	Brown/White Fibrous Heterogeneous	20% Cellulose 5% Glass	60% Gypsum 2% Mica 13% Non-fibrous (Other)	None Detected
17-049 <i>161908256-0049</i>	Caulk - Gray	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17-050 <i>161908256-0050</i>	Caulk - Gray	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17-051 <i>161908256-0051</i>	Caulk - Gray	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18-052 <i>161908256-0052</i>	Caulk - Brown	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18-053 <i>161908256-0053</i>	Caulk - Brown	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18-054 <i>161908256-0054</i>	Caulk - Brown	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19-055 <i>161908256-0055</i>	Roof Sheeting	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19-056 <i>161908256-0056</i>	Roof Sheeting	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19-057 <i>161908256-0057</i>	Roof Sheeting	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
20-058 <i>161908256-0058</i>	Membrane Roofing	White/Black Fibrous Heterogeneous	20% Cellulose 5% Glass	75% Non-fibrous (Other)	None Detected
21-059 <i>161908256-0059</i>	Concrete	Brown/Gray Non-Fibrous Homogeneous	2% Cellulose	10% Quartz 88% Non-fibrous (Other)	None Detected
21-060 <i>161908256-0060</i>	Concrete	Brown/Gray Non-Fibrous Homogeneous	2% Cellulose	10% Quartz 88% Non-fibrous (Other)	None Detected
22-061 <i>161908256-0061</i>	Caulk - Black	Gray/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 05/08/2019 13:32:50



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EMSL Order: 161908256

Customer ID: AMECMM25

Customer PO: C012608802

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
22-062 <small>161908256-0062</small>	Caulk - Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
22-063 <small>161908256-0063</small>	Caulk - Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
23-064 <small>161908256-0064</small>	Caulk - White	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
23-065 <small>161908256-0065</small>	Caulk - White	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
23-066 <small>161908256-0066</small>	Caulk - White	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-067 <small>161908256-0067</small>	Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-068 <small>161908256-0068</small>	Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-069 <small>161908256-0069</small>	Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Ross Matlock (27)

Trevor Maggart (53)

Richard Harding, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. 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 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. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. 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. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN NVLAP Lab Code 200188-0, AZ0939, CA 2575, CO AL-15132, TX 300262, LA 04135

Initial report from: 05/08/2019 13:32:50



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

161908256

EMSL Analytical, Inc.
2001 East 52nd Street

Indianapolis, IN 46205
PHONE: (317) 803-2997
FAX: (317) 803-3047

Company: Amec Foster Wheeler Street: 15933 Clayton Road, Ste. 215 City: Ballwin State/Province: MO Report To (Name): Kevin Arnold Email Address: kevin.arnold@amec.com Project Name/Number: 2424-19-052 U.S. State Samples Taken: MICHIGAN		EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small> Third Party Billing requires written authorization from third party Zip/Postal Code: 63011 Country: United States Telephone #: 6362005137 Fax #: Purchase Order: C012608802 Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail 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 type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" 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>			
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"/> NIOSH 9002 (<1%) <input type="checkbox"/> NY ELAP Method 198.1 (friable in NY) <input type="checkbox"/> NY ELAP Method 198.6 NOB (non-friable-NY) <input type="checkbox"/> OSHA ID-191 Modified <input type="checkbox"/> Standard Addition Method		TEM - Bulk <input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> NY ELAP Method 198.4 (TEM) <input type="checkbox"/> Chatfield Protocol (semi-quantitative) <input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2 <input type="checkbox"/> TEM Qualitative via Filtration Prep Technique <input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique Other <input checked="" type="checkbox"/> <i>Vacuum P-711</i>	
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Date Sampled: 4/25/19	
Samplers Name: J. L. Lumsden		Samplers Signature: <i>[Signature]</i>	
Sample #	HA #	Sample Location	Material Description
		01-001	Tile Grout
		01-002	↓
		01-003	↓
		02-004	Caulk
		02-005	↓
		02-006	↓
		03-007	Joint Filler
		03-008	↓
		03-009	↓
		04-010	Tile Grout
Client Sample # (s): -		Total # of Samples: 69	
Relinquished (Client): <i>[Signature]</i>		Date: 4/24/19	Time: 1400
Received (Lab): <i>[Signature]</i>		Date: 5/2/19	Time: 853 AM
Comments/Special Instructions: <small>Please provide composite result for positive drywall / joint compound. Bill To: Amec Foster Wheeler, 15933 Clayton Road, Ste. 215, Ballwin, MO, 63011, United States Attention: Carol Long Phone: 6362005189 Email: carol.long@amec.com Purchase Order:</small>			

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

8256

St. Louis, MO 63118
PHONE (314)-577-0150
FAX (314)-776-3313

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
		04-011	Tree GROUT
		04-012	↓
		05-013	TERRA FLOZIN
		05-014	↓
		05-015	↓
		06-016	Tree GROUT
		06-017	↓
		06-018	↓
		07-019	CELLULOSE FIBER
		07-020	↓
		07-021	↓
		08-022	DRYWALL/MUD/TAPE
		08-023	↓
		08-024	↓
		09-025	LOVE BASE & MASONRY
		09-026	↓
		09-027	↓
		10-028	CAULK
		10-029	↓
		10-030	↓
		11-031	CAULK
		11-032	↓
		11-033	↓
		12-034	WALL PAPER/MASONRY

***Comments/Special Instructions:**
 Provided composite result for positive wallboard/joint compound sample.
 BILTO AMEC E & I, Inc., 15933 Clayton Road Ste. 215, Ballwin MO 63011 United States
 Attention: Jennifer Schneider Phone: 636-200-5151 Email: Jennifer.Schneider@amec.com Purchase Order: C012601916

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

8256

 St. Louis, MO 63118
 PHONE: (314)-577-0150
 FAX: (314)-776-3313

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
		12-035	Wall Paper / Mastic
		12-036	↓
		13-037	Ceiling Tile
		13-038	↓
		13-039	↓
		14-040	Tile Grout
		14-041	↓
		14-042	↓
		15-043	Cove Base / Mastic
		15-044	↓
		15-045	↓
		16-046	Ceiling Tile
		16-047	↓
		16-048	↓
		17-049	Caulk - Gray
		17-050	↓
		17-051	↓
		18-052	Caulk - Brown
		18-053	↓
		18-054	↓
		19-055	Roof Siding
		19-056	↓
		19-057	↓
		20-058	Membrane Roofing
*Comments/Special Instructions: Provided composite result for positive wallboard/joint compound sample Bill To: AMEC E & I, Inc., 15933 Clayton Road, Ste. 215, Ballwin, MO, 63011, United States Attention: Jennifer Schneider Phone: 636-200-5151 Email: Jennifer.Schneider@amec.com Purchase Order: C012601916			

8256

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

[illegible]

*Comments/Special Instructions:

Please provide composite result for positive drywall / joint compound.

BillTo: Amec Foster Wheeler, 15933 Clayton Road, Ste. 215, Ballwin, MO, 63011, United States

Attention: Carol Long Phone: 6362005169 Email: carol.long@amec.com Purchase Order:



APPENDIX D

Inspector Certification

State of Michigan

Department of Licensing and Regulatory Affairs

Michigan Occupational Safety & Health Administration - Asbestos Program



Asbestos Inspector

Jason T. Cunningham
17508 Hamann Street
Riverview, MI 48193



Accreditation Number
A38202

Expiration Date
10/27/2019

DOB: 03/17/1975

This individual has satisfactorily met or exceeded the requirements of Michigan Public Act 440 of 1988, as amended, to be accredited as an Asbestos Inspector.

Accreditation card is not valid if altered.

136677

APPENDIX E

INSPECTOR CERTIFICATION

State of Michigan
Department of Labor and Economic Opportunity
Michigan Occupational Safety & Health Administration - Asbestos Program

 **Asbestos Inspector**

Bryan N. Gatlin
131 Scott Avenue
Ferguson, MO 63135



Accreditation Number **A55572** **Expiration Date** **11/02/2022**

 **DOB: 11/15/1963**

This individual has satisfactorily met or exceeded the requirements of Michigan Public Act 440 of 1988, as amended, to be accredited as an Asbestos Inspector.

Accreditation card is not valid if altered. **154737**