

# Limited Asbestos Survey

**Tennova Healthcare - Cleveland  
Hybrid Operating Room Renovation  
2305 Chambliss Avenue  
Cleveland, Bradley County, Tennessee**

**June 26, 2018**

Terracon Project No.: E2187071



**Prepared for:**  
CHSPSC, LLC  
Franklin, Tennessee

**Prepared by:**  
Terracon Consultants, Inc.  
Chattanooga, Tennessee

[terracon.com](http://terracon.com)

**Terracon**

Environmental



Facilities



Geotechnical



Materials



June 26, 2018

CHSPSC, LLC  
4000 Meridian Boulevard  
Franklin, Tennessee 37067

Attention: Mr. Dean Tiratto  
Phone: 615-390-3326  
Email: Dean\_Tiratto@chs.net

Re: Limited Asbestos Survey  
Tennova Healthcare - Cleveland  
Hybrid Operating Room Renovation  
2305 Chambliss Avenue  
Cleveland, Bradley County, Tennessee  
Terracon Project No. E2187071


Dear Mr. Tiratto:

Terracon Consultants, Inc. (Terracon) is pleased to submit this report for the above referenced site to CHSPSC, LLC. The purpose of this report is to present the results of a limited asbestos survey performed on May 31, 2018. This assessment was performed in accordance with our proposal (PE2187071, dated May 1, 2018) under the Terms and Conditions established between Terracon and CHSPSC, LLC (MSA, dated June 20, 2016) as authorized by signed CHS Consultant Proposal Submittal Form (dated May 17, 2018). We understand that this survey was requested due to planned renovation activities of the above referenced hybrid operating room.

Asbestos was not identified by the laboratory in the samples collected by Terracon on May 31, 2018. Please refer to the report for details.

Terracon appreciates the opportunity to provide this service to CHSPSC, LLC. If you have any questions regarding this report please contact the undersigned at 423-499-6111.

Sincerely,  
**Terracon Consultants, Inc.**

  
Brian W. Watson  
Senior Environmental Scientist  
State of Tennessee Accreditation A-I-4892-55355  
Expiration Date: January 31, 2018

 for  
Matt Johnston  
Authorized Project Reviewer

Terracon Consultants Inc. 51 Lost Mound Drive Suite 135 Chattanooga, TN 37406-1030

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Environmental

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## Limited Asbestos Survey Report

Hybrid Operating Room ■ Cleveland, Tennessee  
June 26, 2018 ■ Terracon Project No.: E2187071



## EXECUTIVE SUMMARY

Terracon Consultants, Inc. (Terracon) conducted a limited asbestos survey for the Hybrid Operating Room Renovation within the Tennova Healthcare - Cleveland building located at 2305 Chambliss Avenue in Cleveland, Bradley County, Tennessee. The purpose of this survey was to sample and identify suspect asbestos-containing materials (ACM) and provide information regarding the identity, location, condition and approximate quantities of ACM in the building components prior to the specified building renovation.

For the purposes of this limited asbestos survey, our inspection area was limited to the renovation area for the proposed Hybrid Operating Room. The site consists of a renovation area containing equipment storage rooms, a respiratory therapy office, an EKG room, and a common hallway. The site was not occupied at the time of our survey. TMPartners, PLLC Architecture provided demolition plans for the proposed renovation, which is identified as TMPartners, PLLC Architecture project number A00318. The demolition plans (Sheet Number A100) are not dated. The renovation area is limited to the interior finishes of the flooring material, interior wall finishes, plumbing upgrades, and replacement of the entry doors.

The survey was performed on May 31, 2018 by Mr. Steve Akins, a State of TN accredited asbestos inspector, in accordance with our proposal (PE2187071, dated May 1, 2018) under the Terms and Conditions established between Terracon and CHSPSC, LLC (dated June 20, 2016) as authorized by signed CHS Consultant Proposal Submittal Form. The survey was also performed in accordance with the sampling protocols established in United States Environmental Protection Agency (USEPA) 40 Code of Federal Regulations (CFR) Part 763 Subpart E 763, known as the Asbestos Hazard Emergency Response Act, (AHERA). Terracon collected thirty-six (36) bulk samples from twelve (12) homogeneous areas of suspect ACM.

§ Asbestos was not identified by the laboratory in the samples collected by Terracon on May 31, 2018.

It should be noted that suspect materials, other than those identified during the May 31, 2018 survey may exist within the building. Should suspect materials other than those which were identified during this survey be uncovered prior to or during the renovation process, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny their asbestos content. Based on our understanding of the client driven scope, sampling was limited to the interior building materials associated with the renovations, such as vinyl flooring, gypsum walls, and ceilings located on the Hybrid Operating Room renovation work area. Exterior building materials including the roof and other interior building materials beyond the limits of the path of renovation were not included in our scope of services.

**LIMITED ASBESTOS SURVEY**  
**Tennova Healthcare - Cleveland**  
**Hybrid Operating Room Renovation**  
**2305 Chambliss Avenue**  
**Cleveland, Bradley County, Tennessee**  
**Terracon Project No. E2187071**  
**June 26, 2018**

## **1.0 INTRODUCTION**

Terracon Consultants, Inc. (Terracon) conducted a limited asbestos survey for the Hybrid Operating Room Renovation within the Tennova Healthcare - Cleveland building located at 2305 Chambliss Avenue in Cleveland, Bradley County, Tennessee. The survey was conducted on May 31, 2018, by Mr. Steve Akins, a State of TN accredited asbestos inspector in accordance with our proposal (PE2187071, dated May 1, 2018) under the Terms and Conditions established between Terracon and CHSPSC, LLC (dated June 20, 2016) as authorized by signed CHS Consultant Proposal Submittal Form. The interior building components of the proposed renovation were surveyed, and homogeneous areas of suspect asbestos-containing materials (ACM) were visually identified and documented. 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. Suspect ACM samples were collected in general accordance with the sampling protocols outlined in United States Environmental Protection Agency (USEPA) 40 Code of Federal Regulations (CFR) Part 763 Subpart E 763, known as the Asbestos Hazard Emergency Response Act (AHERA). Samples were delivered to an accredited laboratory for analysis by Polarized Light Microscopy (PLM).

We understand this asbestos survey was requested due to the planned renovation area for the proposed Hybrid Operating Room within the Tennova Healthcare - Cleveland building defined and as directed by the client driven scope. EPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during renovation or demolition activities. The asbestos NESHAP requires that potentially regulated ACM (RACM) be identified, classified and quantified prior to planned disturbances or demolition activities.

It should be noted that suspect materials, other than those identified during the May 31, 2018 survey may exist within the building. Should suspect materials other than those which were identified during this survey be uncovered prior to or during the renovation process, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny their asbestos content. Based on our understanding of the client driven scope, sampling was limited to the interior building materials associated with the renovations, such as vinyl flooring, gypsum walls, and ceilings located on the work area. Exterior building materials including the roof and other interior building materials beyond the limits of the path of renovation were not included in our scope of services.

## **1.1 Reliance**

This report is for the exclusive use of CHSPSC, LLC for the project being discussed. Reliance by any other party on this report is prohibited without written authorization of Terracon and CHSPSC, LLC. Reliance on this report by CHSPSC, LLC and all authorized parties will be subject to the terms, conditions, and limitations stated in the Terms and Conditions established between Terracon and CHSPSC, LLC (MSA, dated June 20, 2016), our proposal (PE2187071, dated May 1, 2018), and this report. The limitation of liability defined in the Master Service Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

## **2.0 BUILDING / SITE DESCRIPTION**

The Tennova Healthcare - Cleveland building is located at 2305 Chambliss Avenue in Cleveland, Bradley County, Tennessee. The renovation area of the Hybrid Operating Room is located within the interior of the building in the area of the existing equipment storage rooms, a respiratory therapy office, an EKG room, and a common hallway. The site was not occupied at the time of our survey.

For the purposes of this limited asbestos survey, our inspection area was limited to the work area of the purposed hybrid operating room renovation area. TMPartners, PLLC Architecture provided demolition plans for the proposed renovation, which is identified as TMPartners, PLLC Architecture project number A00318. The demolition plans (Sheet Number A100) are not dated. The renovation area is limited to the interior wall and floor finishes, plumbing upgrades, and replacement of the entry doors.

The heating, ventilation, and air conditioning (HVAC) for the common areas and tenant spaces of the building consists of a forced air system. The air handling units (AHUs) are located in a mechanical room beyond the limits of the proposed renovation area.

The floors in the interior of the building are vinyl composite tile (VCT) floors and carpet, with associated mastic. Interior walls consist of painted gypsum board over metal studs and stucco. Ceilings in the building consist of drop ceiling tiles.

## **3.0 FIELD ACTIVITIES**

The survey was conducted by Mr. Steve Akins, a State of Tennessee and AHERA-accredited building inspector. Copies of Mr. Akins's asbestos inspector certificate are attached as Appendix C. The survey was conducted in general accordance with the sample collection protocols established in USEPA 40 CFR Part 763 Subpart E 763.86, AHERA. A summary of survey activities is provided below.



### **3.1 Visual Assessment**

Survey activities were initiated with visual observation of the interior of the building to identify homogeneous areas of suspect ACM. A homogeneous area (HA) consists of building materials that appear similar throughout in terms of color and texture with consideration given to the date of application. Interior and exterior assessment was conducted in visually accessible areas of the building. Photographs are included in Appendix D. A site diagram is included as Appendix E.

### **3.2 Physical Assessment**

A physical assessment of each homogeneous area (HA) of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the USEPA as a material which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

### **3.3 Sample Collection**

Based on results of the visual observation, bulk samples of suspect ACM were collected in general accordance with USEPA AHERA sampling protocols. Samples of suspect materials were collected from randomly selected locations in each homogeneous area. Bulk samples were collected using wet methods as applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

The selection of sample locations and frequency of sampling were based on Terracon's observations and the assumption that like materials in the same area are homogeneous in content.

Terracon collected thirty-six (36) bulk samples from twelve (12) homogeneous areas of suspect ACM. A summary of suspect ACM samples collected during the survey is included as Appendix A.

### **3.4 Sample Analysis**

Bulk samples were submitted under chain of custody to EMSL Analytical, Inc. (EMSL) of Cinnaminson, NJ for analysis by PLM with dispersion staining techniques per USEPA methodology 600/R-93/116. The percentage of asbestos, where applicable, was determined by microscopic visual estimation. EMSL is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) Accreditation No. 101048-0.

## **4.0 REGULATORY OVERVIEW**

The asbestos NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. It also requires the identification and classification of existing building materials prior to demolition or renovation activity. Under NESHAP, asbestos-containing building materials are classified as either friable, Category I non-friable or Category II non-friable ACM. Friable materials are those that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Category I non-friable ACM includes packings, gaskets, resilient floor coverings and asphalt roofing products containing greater than 1% asbestos. Category II non-friable ACM are non-friable materials other than Category I materials that contain greater 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 which could be crushed or pulverized during anticipated renovation or demolition activities are considered RACM. In the State of Tennessee, asbestos activities are regulated by the Tennessee Department of Environment and Conservation (TDEC) under Administrative Code 1200-0311 - Asbestos. 1200-0311 requires that any asbestos-related activities conducted in the State of Tennessee, where more than three square feet or three linear feet of RACM will be disturbed, be conducted by personnel licensed by the TDEC. In the State of Tennessee, the owner or operator must provide the Air Pollution Control Bureau with written notification of planned removal activities at least 10 working days prior to the commencement of asbestos abatement activities. RACM must be removed prior to renovation or demolition activities which will disturb the materials. Renovations/demolitions require notification even if no asbestos is involved. Removal of RACM must be conducted by a State of Tennessee-licensed asbestos abatement contractor. Management Plans developed for the in-place management of asbestos-containing materials in AHERA-regulated facilities must be developed by a TDEC-licensed Management Planner.

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 exposure to airborne asbestos fibers be maintained below 0.1 asbestos fibers 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 (1.0 f/cc) over a 30 minute time period known as an excursion limit (EL). The TWA and EL are known as OSHA's asbestos permissible exposure limits (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.



## **5.0 FINDINGS AND RECOMMENDATIONS**

Asbestos was not identified by the laboratory in the samples collected by Terracon on May 31, 2018. It should be noted that suspect materials, other than those identified during the May 31, 2018 survey may exist within the building. Should suspect materials other than those which were identified during this survey be uncovered prior to or during the renovation process, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny their asbestos content.

Laboratory analytical reports are included in Appendix B.

## **6.0 LIMITATIONS/GENERAL COMMENTS**

Terracon did not perform sampling which required demolition or destructive activities such as knocking holes in walls, dismantling of equipment or removal of protective coverings. Reasonable efforts to access suspect materials within known areas of restricted access (e.g., crawl spaces) were made; however, it should be noted that suspect materials, other than those identified during the May 31, 2018 survey may exist within the building and will require another visit to sample these materials (vapor barrier behind brick, etc.). Should suspect materials other than those which were identified during this survey be uncovered prior to or during the abatement or renovation process, those materials should be assumed asbestos-containing until sampling and analysis can confirm or deny their asbestos content.

Based on our understanding of the client driven scope, sampling was limited to the interior building materials associated with the renovations, such as vinyl flooring, gypsum walls, and ceilings located on the hybrid operating room renovation area. Exterior building materials including the roof and other interior building materials beyond the limits of the path of renovation were not included in our scope of services.

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 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 has been prepared on behalf of and exclusively for use by CHSPSC, LLC for specific application to their project as discussed. 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. Terracon 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.

## **APPENDIX A**

### **ASBESTOS SURVEY SAMPLE LOCATION SUMMARY**

**Tennova Healthcare - Cleveland**  
**2305 Chambliss Avenue, Cleveland, Bradley County, Tennessee**  
**Terracon Project No. E2187071**

**ASBESTOS SURVEY SAMPLE LOCATION SUMMARY**

HA	Sample No.	Description	Sample Location
<b>Interior</b>			
01	01-FT2-01	12"X12" Floor tile, light grey with dark grey blotches	Southern office
	01-FT2-02	12"X12" Floor tile, light grey with dark grey blotches	Middle office
	01-FT2-03	12"X12" Floor tile, light grey with dark grey blotches	Middle office
02	02-MG7-04	Carpet with mastic	Northern office
	02-MG7-05	Carpet with mastic	Northern office
	02-MG7-06	Carpet with mastic	Middle office
03	03-MG3-07	Base cove with mastic	Southern office
	03-MG3-08	Base cove with mastic	Middle office
	03-MG3-09	Base cove with mastic	Middle office
04	04-WB2-10	Wallboard	Southern office
	04-WB2-11	Wallboard	Middle office
	04-WB2-12	Wallboard	Middle office
05	05-WB1-13	Wallboard, tape and joint compound	Middle office
	05-WB1-14	Wallboard, tape and joint compound	Middle office
	05-WB1-15	Wallboard, tape and joint compound	Middle office
06	06-WB3-16	Joint compound	Southern office
	06-WB3-17	Joint compound	Middle office
	06-WB3-18	Joint compound	Middle office
07	07-MA6-19	Stucco	Southern office wall
	07-MA6-20	Stucco	Southern office wall
	07-MA6-21	Stucco	Northern office wall
08	08-CA1-22	Grey window caulk	Middle office
	08-CA1-23	Grey window caulk	Middle office
	08-CA1-24	Grey window caulk	Middle office
09	09-CA5-25	White Caulk	Southern bathroom sink
	09-CA5-26	White Caulk	Southern bathroom sink
	09-CA5-27	White Caulk	Northern bathroom sink
10	10-CT3-28	White with pinholes and lesions	Southern office
	10-CT3-29	White with pinholes and lesions	Middle office
	10-CT3-30	White with pinholes and lesions	Northern office
11	11-PI4-31	White with yellow fiberglass	Above ceiling in southern office
	11-PI4-32	White with yellow fiberglass	Above ceiling in southern office
	11-PI4-33	White with yellow fiberglass	Above ceiling in southern office
12	12-PI5-34	White with yellow fiberglass	Above ceiling in southern office
	12-PI5-35	White with yellow fiberglass	Above ceiling in southern office
	12-PI5-36	White with yellow fiberglass	Above ceiling in southern office

## **APPENDIX B**

### **ASBESTOS LABORATORY ANALYTICAL DATA**



# EMSL Analytical, Inc.

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EMSL Order: 041816673

Customer ID: AQUA56

Customer PO: E2187071

Project ID:

**Attention:** Brian Watson  
Aquaterra - A Terracon Company  
51 Lost Mound Drive  
Chattanooga, TN 37406

**Phone:** (423) 499-6111  
**Fax:** (423) 499-8099  
**Received Date:** 06/04/2018 9:00 AM  
**Analysis Date:** 06/08/2018  
**Collected Date:**

**Project:** E2187071

## 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
01-FT2-01-Floor Tile <small>041816673-0001</small>	Southern Office - 12"x12" Floor Tile, Light Grey with Dark Grey Blotches	Gray Non-Fibrous Homogeneous	HA: 01	100% Non-fibrous (Other)	None Detected
01-FT2-01-Mastic <small>041816673-0001A</small>	Southern Office - Mastic	Yellow Non-Fibrous Homogeneous	HA: 01	100% Non-fibrous (Other)	None Detected
01-FT2-02-Floor Tile <small>041816673-0002</small>	Middle Office - 12"x12" Floor Tile, Light Grey with Dark Grey Blotches	Gray Non-Fibrous Homogeneous	HA: 01	100% Non-fibrous (Other)	None Detected
01-FT2-02-Mastic <small>041816673-0002A</small>	Middle Office - Mastic	Yellow Non-Fibrous Homogeneous	HA: 01	100% Non-fibrous (Other)	None Detected
01-FT2-03-Floor Tile <small>041816673-0003</small>	Middle Office - 12"x12" Floor Tile, Light Grey with Dark Grey Blotches	Gray Non-Fibrous Homogeneous	HA: 01	100% Non-fibrous (Other)	None Detected
01-FT2-03-Mastic <small>041816673-0003A</small>	Middle Office - Mastic	Yellow Non-Fibrous Homogeneous	HA: 01	100% Non-fibrous (Other)	None Detected
02-MG7-04-Carpet <small>041816673-0004</small>	Northern Office - Carpet	Various Fibrous Homogeneous	85% Synthetic HA: 02	15% Non-fibrous (Other)	None Detected
02-MG7-04-Mastic <small>041816673-0004A</small>	Northern Office - Mastic	Clear Non-Fibrous Homogeneous	HA: 02	100% Non-fibrous (Other)	None Detected
02-MG7-05-Carpet <small>041816673-0005</small>	Northern Office - Carpet	Various Fibrous Homogeneous	85% Synthetic HA: 02	15% Non-fibrous (Other)	None Detected
02-MG7-05-Mastic <small>041816673-0005A</small>	Northern Office - Mastic	Clear Non-Fibrous Homogeneous	HA: 02	100% Non-fibrous (Other)	None Detected
02-MG7-06-Carpet <small>041816673-0006</small>	Middle Office - Carpet	Various Fibrous Homogeneous	90% Synthetic HA: 02	10% Non-fibrous (Other)	None Detected
02-MG7-06-Mastic <small>041816673-0006A</small>	Middle Office - Mastic	Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/08/2018 19:30:19



# EMSL Analytical, Inc.

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EMSL Order: 041816673

Customer ID: AQUA56

Customer PO: E2187071

Project ID:

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

			Non-Asbestos		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
HA: 02					
03-MG3-07-Base Cove 041816673-0007	Southern Office - Base Cove	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 03					
03-MG3-07-Mastic 041816673-0007A	Southern Office - Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 03					
03-MG3-08-Base Cove 041816673-0008	Middle Office - Base Cove	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 03					
03-MG3-08-Mastic 041816673-0008A	Middle Office - Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 03					
03-MG3-09-Base Cove 041816673-0009	Middle Office - Base Cove	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 03					
03-MG3-09-Mastic 041816673-0009A	Middle Office - Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 03					
04-WB2-10 041816673-0010	Southern Office - Wallboard	White Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
HA: 04					
04-WB2-11 041816673-0011	Middle Office - Wallboard	White Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
HA: 04					
04-WB2-12 041816673-0012	Middle Office - Wallboard	White Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
HA: 04					
05-WB1-13-Wallboard 041816673-0013	Middle Office - Wallboard	White Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
HA: 05					
05-WB1-13-Tape 041816673-0013A	Middle Office - Tape	White Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (Other)	None Detected
HA: 05					
05-WB1-13-Joint Compound 041816673-0013B	Middle Office - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 05					
05-WB1-14-Wallboard 041816673-0014	Middle Office - Wallboard	White Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
HA: 05					
05-WB1-14-Tape 041816673-0014A	Middle Office - Tape	White Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (Other)	None Detected
HA: 05					

Initial report from: 06/08/2018 19:30:19





# EMSL Analytical, Inc.

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EMSL Order: 041816673

Customer ID: AQUA56

Customer PO: E2187071

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
05-WB1-14-Joint Compound  041816673-0014B	Middle Office - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 05		
05-WB1-15-Wallboard  041816673-0015	Middle Office - Wallboard	White Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
			HA: 05		
05-WB1-15-Tape  041816673-0015A	Middle Office - Tape	White Fibrous Homogeneous	75% Cellulose	25% Non-fibrous (Other)	None Detected
			HA: 05		
05-WB1-15-Joint Compound  041816673-0015B	Middle Office - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 05		
06-WB3-16  041816673-0016	Southern Office - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 06		
06-WB3-17  041816673-0017	Middle Office - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 06		
06-WB3-18  041816673-0018	Middle Office - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 06		
07-MA6-19-Drywall  041816673-0019 <i>Sample appears to be drywall and plaster</i>	Southern Office Wall - Drywall	White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
			HA: 07		
07-MA6-19-Base Coat  041816673-0019A	Southern Office Wall - Base Coat	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 07		
07-MA6-19-Skim Coat  041816673-0019B	Southern Office Wall - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 07		
07-MA6-20-Drywall  041816673-0020 <i>Sample appears to be drywall and plaster</i>	Southern Office Wall - Drywall	White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
			HA: 07		
07-MA6-20-Base Coat  041816673-0020A	Southern Office Wall - Base Coat	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 07		
07-MA6-20-Skim Coat  041816673-0020B	Southern Office Wall - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
			HA: 07		

Initial report from: 06/08/2018 19:30:19



# EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / [cinnasblab@EMSL.com](mailto:cinnasblab@EMSL.com)

EMSL Order: 041816673

Customer ID: AQUA56

Customer PO: E2187071

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
07-MA6-21-Drywall <i>041816673-0021</i> <i>Sample appears to be drywall and plaster</i>	Northern Office Wall - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
HA: 07					
07-MA6-21-Base Coat <i>041816673-0021A</i>	Northern Office Wall - Base Coat	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 07					
07-MA6-21-Skim Coat <i>041816673-0021B</i>	Northern Office Wall - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 07					
08-CA1-22 <i>041816673-0022</i>	Middle Office - Grey Window Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 08					
08-CA1-23 <i>041816673-0023</i>	Middle Office - Grey Window Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 08					
08-CA1-24 <i>041816673-0024</i>	Middle Office - Grey Window Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 08					
09-CA5-25 <i>041816673-0025</i>	Southern Bathroom Sink - White Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 09					
09-CA5-26 <i>041816673-0026</i>	Southern Bathroom Sink - White Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 09					
09-CA5-27 <i>041816673-0027</i>	Northern Bathroom Sink - White Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
HA: 09					
10-CT3-28 <i>041816673-0028</i>	Southern Office - White with Pinholes & Lesions	White Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
HA: 10					
10-CT3-29 <i>041816673-0029</i>	Middle Office - White with Pinholes & Lesions	White Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
HA: 10					
10-CT3-30 <i>041816673-0030</i>	Northern Office - White with Pinholes & Lesions	White Fibrous Homogeneous	65% Cellulose	35% Non-fibrous (Other)	None Detected
HA: 10					
11-PI4-31 <i>041816673-0031</i>	Above Ceiling in Southern Office - White with Yellow Fiberglass	White/Yellow Fibrous Homogeneous	10% Synthetic 70% Glass	20% Non-fibrous (Other)	None Detected
HA: 11					
11-PI4-32 <i>041816673-0032</i>	Above Ceiling in Southern Office - White with Yellow Fiberglass	White/Yellow Fibrous Homogeneous	10% Synthetic 70% Glass	20% Non-fibrous (Other)	None Detected
HA: 11					

Initial report from: 06/08/2018 19:30:19



# EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com / cinnasblab@EMSL.com>

EMSL Order: 041816673

Customer ID: AQUA56

Customer PO: E2187071

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
11-PI4-33 041816673-0033	Above Ceiling in Southern Office - White with Yellow Fiberglass	White/Yellow Fibrous Homogeneous	10% Synthetic 70% Glass	20% Non-fibrous (Other)	None Detected
HA: 11					
12-PI5-34 041816673-0034	Above Ceiling in Southern Office - White with Yellow Fiberglass	White/Yellow Fibrous Homogeneous	10% Synthetic 70% Glass	20% Non-fibrous (Other)	None Detected
HA: 12					
12-PI5-35 041816673-0035	Above Ceiling in Southern Office - White with Yellow Fiberglass	White/Yellow Fibrous Homogeneous	10% Synthetic 70% Glass	20% Non-fibrous (Other)	None Detected
HA: 12					
12-PI5-36 041816673-0036	Above Ceiling in Southern Office - White with Yellow Fiberglass	White/Yellow Fibrous Homogeneous	10% Synthetic 75% Glass	15% Non-fibrous (Other)	None Detected
HA: 12					

Analyst(s)

John Flanagan (18)

Laura Kantor (39)

Benjamin Ellis, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported 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. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367

Initial report from: 06/08/2018 19:30:19





## Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

041816673

EMSL ANALYTICAL, INC.

107 HADDON AVENUE

WESTMONT NJ 08108

PHONE: (856) 858-4800

FAX: (856) 858-4960

RECEIVED  
CINNAMEN NJ  
18 JUN 2009 10:00

Company : <u>Terracon</u>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments	
Street: <u>51 East Mound Dr.</u>		Third Party Billing requires written authorization from third party	
City/State/Zip: <u>Chattanooga TN 37406</u>			
Report To (Name): <u>Brian W. Watson</u>		Fax #: <u>423-499-8099</u>	
Telephone #: <u>423-602-2107</u>		Email Address: <u>brian.watson@terracon.com</u>	
Project Name/Number: <u>E2187071</u>			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order: <u>E2187071</u> State Samples Taken: <u>TN</u>	

## TURNAROUND - Please Check\*

☐ 3 Hours ☐ 6 Hours ☐ 24 Hrs ☐ 48 Hrs ☐ 3 Days ☐ 4 Days ☒ 5 Days ☐ 10 Days

\*For TEM Air 3 hours/6 hours, 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

- ☐ NIOSH 7400  
☐ w/ OSHA 8hr. TWA

## PLM - Bulk (reporting limit)

- ☒ PLM EPA 600/R-93/116 (<1%)  
☐ PLM EPA NOB (<1%)  
Point Count  
☐ 200 (<0.5%) ☐ 400 (<0.25%) ☐ 1000 (<0.1%)  
Point Count w/Gravimetric  
☐ 200 (<0.5%) ☐ 400 (<0.25%) ☐ 1000 (<0.1%)  
☐ NYS 198.1 (friable in NY)  
☐ NYS 198.6 NOB(non-friable-NY)  
☐ NIOSH 9002 (<1%)

## TEM - Air

- ☐ AHERA 40 CFR, Part 763  
☐ NIOSH 7402  
☐ EPA Level II  
☐ ISO 10312

## TEM - Bulk

- ☐ TEM EPA NOB  
☐ NYS NOB 198.4 (non-friable-NY)  
☐ Chatfield SOP  
☐ TEM Mass Analysis-EPA 600 sec. 2.5

## TEM - Water

- EPA 100.2 ☐ Fibers >10µm  
☐ All Fiber Sizes

## TEM- Dust

- ☐ Microvac - ASTM D 5755  
☐ Wipe - ASTM D6480  
☐ Carpet Sonication (EPA 600/J-93/167)

## Soil/Rock/Vermiculite

- ☐ PLM CARB 435 - A (0.25% sensitivity)  
☐ PLM CARB 435 - B (0.1% sensitivity)  
☐ TEM CARB 435 - B (0.1% sensitivity)  
☐ TEM CARB 435 - C (0.01% sensitivity)  
☐ EPA Protocol (Semi-Quantitative)  
☐ EPA Protocol (Quantitative)

## Other:

☐☐ Check For Positive Stop - Clearly Identify Homogenous GroupSamplers Name: Steve AkinsSamplers Signature: Steve Akins

SAMPLE #	SAMPLE DESCRIPTION	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
	<u>See Sample Summary Attached</u>		

\*\*Comments/Special Instructions:

Client Sample # (s): 01-36Total # of Samples: 36Relinquished (Client): Steve AkinsDate: 6-1-18Time: 1000Received (Lab): C/MODate: 6-5-14Time: 9a

Controlled Document - Asbestos COC - R1 - 2/6/2009

[www.emsl.com](http://www.emsl.com)

Page 1 of \_\_\_ pages



041816673

**ASBESTOS SURVEY SAMPLE SUMMARY****Tennova Cleveland**

Terracon Project No.: E2187071

RECEIVED  
EMSL  
CINNAMINSON, NJ  
18 JUN -4 AM 10:00

HA	Sample No.	Description	Sample Location
<b>Interior</b>			
01	01-FT2-01	12"X12" Floor tile, light grey with dark grey blotches	Southern office
	01-FT2-02	12"X12" Floor tile, light grey with dark grey blotches	Middle office
	01-FT2-03	12"X12" Floor tile, light grey with dark grey blotches	Middle office
02	02-MG7-04	Carpet with mastic	Northern office
	02-MG7-05	Carpet with mastic	Northern office
	02-MG7-06	Carpet with mastic	Middle office
03	03-MG3-07	Base cove with mastic	Southern office
	03-MG3-08	Base cove with mastic	Middle office
	03-MG3-09	Base cove with mastic	Middle office
04	04-WB2-10	Wallboard	Southern office
	04-WB2-11	Wallboard	Middle office
	04-WB2-12	Wallboard	Middle office
05	05-WB1-13	Wallboard, tape and joint compound	Middle office
	05-WB1-14	Wallboard, tape and joint compound	Middle office
	05-WB1-15	Wallboard, tape and joint compound	Middle office
06	06-WB3-16	Joint compound	Southern office
	06-WB3-17	Joint compound	Middle office
	06-WB3-18	Joint compound	Middle office
07	07-MA6-19	Stucco	Southern office wall
	07-MA6-20	Stucco	Southern office wall
	07-MA6-21	Stucco	Northern office wall
08	08-CA1-22	Grey window caulk	Middle office
	08-CA1-23	Grey window caulk	Middle office
	08-CA1-24	Grey window caulk	Middle office
09	09-CA5-25	White Caulk	Southern bathroom sink
	09-CA5-26	White Caulk	Southern bathroom sink
	09-CA5-27	White Caulk	Northern bathroom sink
10	10-CT3-28	White with pinholes and lesions	Southern office
	10-CT3-29	White with pinholes and lesions	Middle office
	10-CT3-30	White with pinholes and lesions	Northern office
11	11-PI4-31	White with yellow fiberglass	Above ceiling in southern office
	11-PI4-32	White with yellow fiberglass	Above ceiling in southern office
	11-PI4-33	White with yellow fiberglass	Above ceiling in southern office
12	12-PI5-34	White with yellow fiberglass	Above ceiling in southern office
	12-PI5-35	White with yellow fiberglass	Above ceiling in southern office
	12-PI5-36	White with yellow fiberglass	Above ceiling in southern office

## **APPENDIX C**

### **LICENSES AND CERTIFICATIONS**





## THE STATE OF TENNESSEE

Department of Environment and Conservation Division of Solid Waste Management  
Toxic Substances Program

William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 14th Floor Nashville TN 37243

By virtue of the authority vested by the Division of Solid Waste Management, the  
Company named below is hereby accredited to offer and/or conduct Asbestos activities  
pursuant to Rule 1200-01-20:

### Terracon Consultants, Inc.

5217 Linbar Dr. Suite 309 Nashville TN, 37211

to conduct ASBESTOS ACTIVITIES in schools or public and commercial buildings in Tennessee.  
This firm is responsible for compliance with the applicable requirements of Rule 1200-01-20.

Discipline	Type	Accreditation Number	Effective Date	Expiration Date
Accreditation	Re-Accreditation	A-F-692-63802	December 01, 2017	December 31, 2018



Given under the Seal of the State of Tennessee in Nashville.

This 19th Day of January 2018

Division of Solid Waste Management  
Toxic Substance Program

CN-1324 (Rev 6/13)

RDA-3020



Completed Course & Examination  
Requirements for EPA-Model Accreditation

**ASBESTOS IN BUILDINGS:  
INSPECTOR REFRESHER**

**August 29, 2017**

Sponsored By

**The Environmental Institute**

Steve Akins

Name

August 29, 2017

Examination Date

David W. Hogue

TEI Director/Training Manager

16429

Certificate Number



**THE STATE OF TENNESSEE**

Department of Environment and Conservation  
Division of Solid Waste Management  
Toxic Substances Program

90236-36043



Issued: 3/27/2019

Re-Accreditation

**Steven D Akins**

DOB	Sex	HGT	WGT
13-Jan-1965	M	6' 2"	245

Discipline	Accreditation	Expiration
Inspector	A-I-94332-66777	Mar-31-2019

**Asbestos Accreditation**



---

# ***The Environmental Institute***

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## ***Brian W. Watson***

---

Social Security Number - XXX-XX-6331  
Terracon Consultants, Inc. - 1121 Noble Street - Anniston, Alabama 36201

*Has completed coursework and satisfactorily passed  
an examination that meets all criteria required for  
EPA/AHERA/ASHARA (TSCA Title II) Approved Reaccreditation*

### ***Asbestos in Buildings: Inspector Refresher***

***April 17, 2018***

Course Date

***16846***

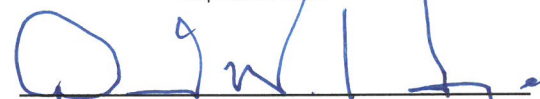
Certificate Number

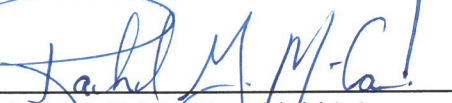
***April 17, 2018***

Examination Date

***April 16, 2019***

Expiration Date

  
David W. Hogue - Principal Instructor / Training Manager

  
Rachel G. McCain - Exam Administrator



(Approved by the ABIH Certification Maintenance Committee for 1/2 CM point - Approval #11-577)

(Florida Provider Registration Number FL49-0001342 - Course #FL49-0002805)

TEI - 1841 West Oak Parkway, Suite F - Marietta, Georgia 30062 - (770) 427-3600 - [www.tei-atl.com](http://www.tei-atl.com)

**APPENDIX D**  
**PHOTOGRAPHS**

## Limited Asbestos Survey

Hybrid Operating Room ■ Cleveland, Tennessee

Photos Taken: May 25, 2018 ■ Terracon Project No. E2187071

**Terracon**



**Photo #1** View of the interior of the proposed hybrid operating room.



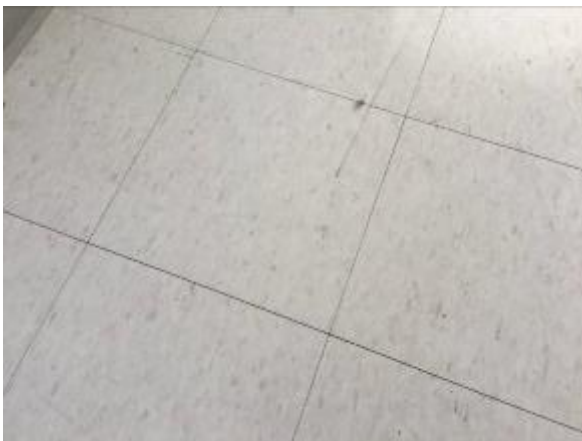
**Photo #2** View of the interior of the proposed hybrid operating room.



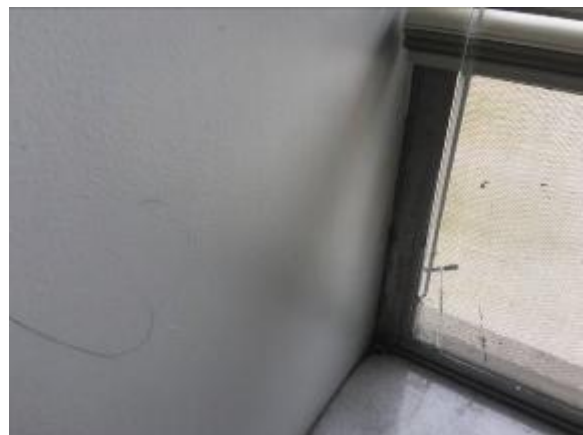
**Photo #3** View of the flooring and wall board of the proposed hybrid operating room.



**Photo #4** View of the wall board and the drop ceiling tile of the proposed hybrid operating room.



**Photo #5** View of the floor tile in the proposed hybrid operating room.



**Photo #6** View of the wall board and window caulking in the hybrid operating room.



## Limited Asbestos Survey

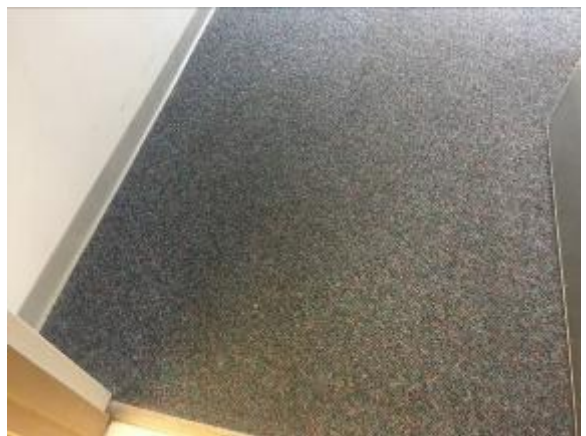
Hybrid Operating Room ■ Cleveland, Tennessee

Photos Taken: May 25, 2018 ■ Terracon Project No. E2187071

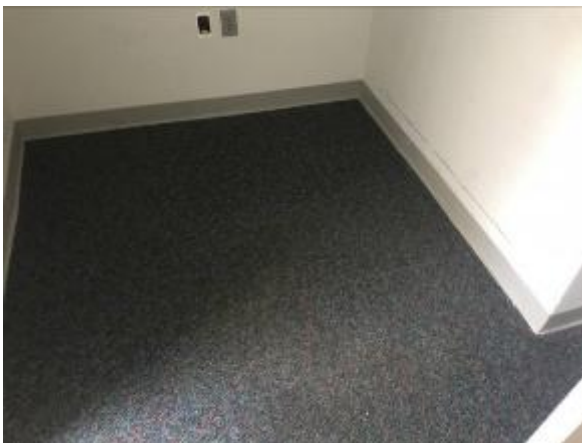
**Terracon**



**Photo #7** View of the carpet in the proposed hybrid operating room.



**Photo #8** View of the carpet and wall board in the proposed hybrid operating room.



**Photo #9** View of the carpet and wall board in the proposed hybrid operating room



**Photo #10** View of ceiling tile in the proposed hybrid operating room.



**Photo #11** View of the ceiling plenum.



**Photo #12** View of the ceiling plenum

## **APPENDIX E**

### **SITE DIAGRAM**

**KEYNOTE-  
LEAD SHIELDING REQUIRED AT PERIMETER  
WALLS REQUIRED (REFER TO  
PHYSICIST'S SHIELDING REPORT)**