



EarthCon Consultants, Inc.  
Post Office Box 1246  
Madison, Mississippi 39130

Phone: 601-853-2134  
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[www.earthcon.com](http://www.earthcon.com)

November 15, 2017

Mr. Danny Lee  
Madison County Board of Supervisors  
Post Office Box 608  
Canton, Mississippi 39046  
Phone: (601) 855-5533; Fax: (601) 826-9011

**Re:** Asbestos Bulk Sampling Report  
Madison County Emergency Management Services Complex  
1633 West Pence Street  
Canton, Mississippi  
EarthCon Project No. 02.20170326.55

Dear Mr. Lee:

On October 20, 2017, EarthCon Consultants, Inc. (EarthCon) conducted an asbestos bulk sampling of the metal roof material at the Madison County Emergency Management Services Complex located at 1633 West Pence Street in Canton, Mississippi. The sampling was conducted by Mr. W. Hal Moore, Mississippi Certification No. ABI-00002284, expiration date January 25, 2018, and Mr. Reginald Sampson, Mississippi Certification No. ABI-00001921, expiration date September 28, 2018, to evaluate the roof for the presence of asbestos-containing materials (ACMs) prior to replacement. This report describes the inspection tasks and presents our findings and recommendations.

Copies of the Inspectors' certifications are found in Attachment A.

At the time of the inspection, all areas of the client specified structure were accessible and were visually inspected. ACM materials were identified and the locations are indicated on Figure 1.

During the survey, eight (8) representative samples of suspect ACMs, some containing multiple layers, were collected for laboratory analysis from the interior and exterior of the roof. The samples were submitted to International Asbestos Testing Laboratories for analysis by the Environmental Protection Agency (EPA) recommended Polarized Light Microscopy (PLM) and Dispersion Staining Method. Suspect materials identified during the survey consisted of the following homogeneous building component materials:

- |  |   |
|--|---|
| <p><b><u>Miscellaneous</u></b></p> <ul style="list-style-type: none"><li>• Roofing Material – Sky Lights</li><li>• Roofing Material – Vent Fan</li><li>• Roofing Material – HVAC</li></ul> | <p><b><u>Thermal System Insulation</u></b></p> <ul style="list-style-type: none"><li>• Ceiling/Wall Insulation (Interior)</li></ul> |
|--|---|

The following homogeneous building materials were determined to contain asbestos minerals in quantities greater than one (1) percent:

- Roofing Materials – Sky Lights (Sample #: 01 & 02)
- Roofing Materials – HVAC (Sample #: 05 & 06)

Sample results are found in Attachment B, Laboratory Report.

All other samples analyzed indicated that no asbestos was detected in the following materials.

- Roofing Materials – Vent Fans (Sample #: 03 & 04)
- Ceiling/Wall Insulation (Sample #: 07 & 08)

Specific locations of each collected sample can be found in Attachment C.

### **Conclusions and Recommendations**

Based on the tasks undertaken for the asbestos material survey and existing building conditions at the time of the survey, EarthCon has developed the following conclusions and recommendations:

1. As a result of the survey, the aforementioned non-friable, non-regulated ACMs were identified on the roof of the Madison County Emergency Management Complex scheduled for replacement:

ACM Location	ACM Description	ACM Condition/ Classification*	Approximate Square Feet
Sky Lights	Flashings	NF/NR	350 SF
HVAC/Miscellaneous Flashings (Locations Shown on Diagram)	Flashings	NF/NR	250 SF

\*F = Friable; NF = Non-Friable; R = Regulated; NR = Non-Regulated

\*\*SF = Square Feet; LF = Linear Feet; CF = Cubic Feet; NA = Not Applicable

2. The abatement contractor or owner is required to notify the Mississippi Department of Environmental Quality (MDEQ) of planned abatement activities at least ten (10) working days prior to the scheduled start of these activities, as required by EPA 40 CFR Part 61.145 (b).

3. All asbestos-containing waste material (demolition debris) shall be transported and deposited at an EPA (MDEQ)-approved landfill site in accordance with EPA 40 CFR Part 61.150 (b)-(e). The disposal site shall be operated in accordance with EPA 40 CFR Part 61.154.

### Limitations

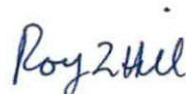
This report was prepared for the sole and exclusive use and reliance of Madison County Board of Supervisors and presents conclusions based solely upon the agreed scope of work outlined in this report and EarthCon Proposal No. 02.01210021.55.01.17346, dated October 10, 2017. No other parties may rely on this report, in whole or in part, without the express written authorization of EarthCon, such authorization to be evidenced by a secondary client agreement executed by EarthCon and the secondary client. EarthCon makes no warranties or guarantees as to the accuracy or completeness of information, if any, provided or compiled by individuals or entities other than EarthCon. It is possible that, as a result of the limitations imposed on the scope of work, there exists relevant information that was not considered in the conclusions rendered in this report. Additional information, which was not found or available to EarthCon at the time of writing this report, may result in modification of the conclusions presented herein. This report is not intended to be and is not a legal opinion. The services performed by EarthCon have been conducted in a manner consistent with the level of care ordinarily exercised by members of our profession currently practicing at the same time under similar conditions. No other warranty, expressed or implied, is made.

Should you have any questions concerning the contents of this report, please contact me at your convenience (601) 853-2134. EarthCon Consultants, Inc., Inc. appreciates the opportunity to provide Madison County Board of Supervisors with environmental consulting services.

Sincerely,  
EarthCon Consultants, Inc.



W. Hal Moore  
Senior Project Manager



Roy L. Hill  
Principal Geologist

Attachments

## ATTACHMENTS

**ATTACHMENT A**  
**INSPECTOR CERTIFICATIONS**

# *State of Mississippi*

*Department of Environmental Quality  
Office of Pollution Control*

## *Certificate of Licensure*

In accordance with the Asbestos Abatement Accreditation and Certification Act,  
Enacted as 1989 Mississippi Law, Chapter 505

Be it known that

***W. Hal Moore***

Having submitted acceptable evidence of qualifications and  
training and other appropriate information, is hereby granted this

***Asbestos Inspector  
Certification***

*Certificate No.: ABI-00002284  
Expiration Date: Jan 25th, 2018  
Training Expires on Jan 25th, 2018*

  
*Chief, Asbestos & Lead Certification Branch*

40533 LIC20170001

# *State of Mississippi*

*Department of Environmental Quality  
Office of Pollution Control*

## *Certificate of Licensure*

In accordance with the Asbestos Abatement Accreditation and Certification Act,  
Enacted as 1989 Mississippi Law, Chapter 505

Be it known that

***Reginald Sampson***

Having submitted acceptable evidence of qualifications and  
training and other appropriate information, is hereby granted this

***Asbestos Inspector  
Certification***



*Certificate No.: ABI-00001921  
Expiration Date: Sep 28th, 2018  
Training Expires on Sep 28th, 2018*

*Chief, Asbestos & Lead Certification Branch*

40765 LIC20170003

**ATTACHMENT B**  
**LABORATORY REPORT**





Environmental Challenges  
BUSINESS SOLUTIONS®

EARTHCON CONSULTANTS, INC.

110 Weisenberger Road  
Madison, Mississippi 39110

Telephone: (601) 853-2134 Fax: (601) 856-3978  
Email: [hmoore@earthcon.com](mailto:hmoore@earthcon.com); [nmatthys@earthcon.com](mailto:nmatthys@earthcon.com);  
[rclarke@earthcon.com](mailto:rclarke@earthcon.com)

Lab Name:	
Cooler No.:	
FedEx No.:	

CHAIN-OF-CUSTODY

Client Name: EarthCon Consultants, Inc. 110 Weisenberger Road Madison, Mississippi 39110	Project Name/Location: <i>Madison Co. Emergency Management Madison, MS</i> Sampler (print/signature):	Project No.: <i>20170326.55</i> H/M/S (lab use):
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Item No.	Field No.	Sample Description	Collection		Analysis Required	Lab No. (for lab use only)
			Date	Time		
1	01	Roofing material	10/20/17		PLM	6372107
2	02					6372108
3	03	Roofing material vent fan				6372109
4	04					6372110
5	05	Roofing material HVAC				6372111
6	06					6372112
7	07	Ceiling and wall insulation				6372113
8	08					6372114

Relinquished By: <i>Reginald Dyer</i>	Date/Time: <i>10/20/17</i>	Accepted By: <i>[Signature]</i>	Date/Time: <i>10/30/17</i>	Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Relinquished By:	Date/Time:	Accepted By:	Date/Time:				

CERTIFICATE OF ANALYSIS

Client: EarthCon Consultants, Inc  
PO Box 1246  
Madison MS 39130


Report Date: 10/30/2017  
Report No.: 550458 - PLM  
Project: Madison Co Emergency Management  
Project No.: 20170326.55

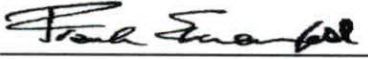
Client: EAR166

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6372107 <b>Client No.:</b> 1 <u>Percent Asbestos:</u> <i>15 Chrysotile</i>	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<b>Location:</b> <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 85
<b>Lab No.:</b> 6372108 <b>Client No.:</b> 2 <u>Percent Asbestos:</u> <i>15 Chrysotile</i>	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<b>Location:</b> <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 85
<b>Lab No.:</b> 6372109 <b>Client No.:</b> 3 <u>Percent Asbestos:</u> <i>None Detected</i>	<b>Analyst Observation:</b> Grey Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<b>Location:</b> Vent Fan <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6372109(L2) <b>Client No.:</b> 3 <u>Percent Asbestos:</u> <i>None Detected</i>	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<b>Location:</b> Vent Fan <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6372110 <b>Client No.:</b> 4 <u>Percent Asbestos:</u> <i>None Detected</i>	<b>Analyst Observation:</b> Grey Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<b>Location:</b> Vent Fan <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 6372110(L2) <b>Client No.:</b> 4 <u>Percent Asbestos:</u> <i>None Detected</i>	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<b>Location:</b> Vent Fan <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 100

Analytical Method - US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/24/2017  
Date Analyzed: 10/30/2017  
Signature:   
Analyst: Randy Caran

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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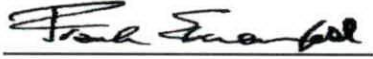
Client: EAR166

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 6372111 <b>Client No.:</b> 5 <u>Percent Asbestos:</u> <b>35 Chrysotile</b>	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> 2 Fibrous Glass	<b>Location:</b> HVAC <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 63
<b>Lab No.:</b> 6372112 <b>Client No.:</b> 6 <u>Percent Asbestos:</u> <b>35 Chrysotile</b>	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Roofing Material <u>Percent Non-Asbestos Fibrous Material:</u> 2 Fibrous Glass	<b>Location:</b> HVAC <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 63
<b>Lab No.:</b> 6372113 <b>Client No.:</b> 7 <u>Percent Asbestos:</u> <b>None Detected</b>	<b>Analyst Observation:</b> Brown Insulation <b>Client Description:</b> Insulation <u>Percent Non-Asbestos Fibrous Material:</u> 100 Cellulose	<b>Location:</b> Ceiling And Wall <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> None Detected
<b>Lab No.:</b> 6372114 <b>Client No.:</b> 8 <u>Percent Asbestos:</u> <b>None Detected</b>	<b>Analyst Observation:</b> Brown Insulation <b>Client Description:</b> Insulation <u>Percent Non-Asbestos Fibrous Material:</u> 100 Cellulose	<b>Location:</b> Ceiling And Wall <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> None Detected

Analytical Method - US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/24/2017  
Date Analyzed: 10/30/2017  
Signature:   
Analyst: Randy Caran

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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## Appendix to Analytical Report

**Customer Contact:** Hal Moore  
**Analysis:** US EPA 600, R93-116

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

**iATL Customer Service:** customerservice@iatl.com  
**iATL Office Manager:** cdavis@iatl.com  
**iATL Account Representative:** Shirley Clark  
**Sample Login Notes:** See Batch Sheet Attached  
**Sample Matrix:** Bulk Building Materials  
**Exceptions Noted:** See Following Pages

### General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at [www.iATL.com](http://www.iATL.com) and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

### Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

### Certifications:

- NIST-NVLAP No. 101165-0
- NY-DOH No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

**Analytical Methodology Alternatives:** Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)  
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

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Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

**Disclaimers / Qualifiers:**

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at [customerservice@iatl.com](mailto:customerservice@iatl.com).

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.

**Recommendations for Vermiculite Analysis:**

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov), United States Geological Survey (USGS) [www.minerals.usgs.gov/minerals/](http://www.minerals.usgs.gov/minerals/), US EPA [www.epa.gov/asbestos](http://www.epa.gov/asbestos). The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116  
**Requirements/Comments:** Minimum of 0.1 g of sample. ~0.25% LOQ for most samples.
- 2) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.
- 3) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Floats" only.
- 4) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.
- 5) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004



9000 Commerce Parkway Suite B  
Mt. Laurel, New Jersey 08054  
Telephone: 856-231-9449  
Email: customerservice@iatl.com

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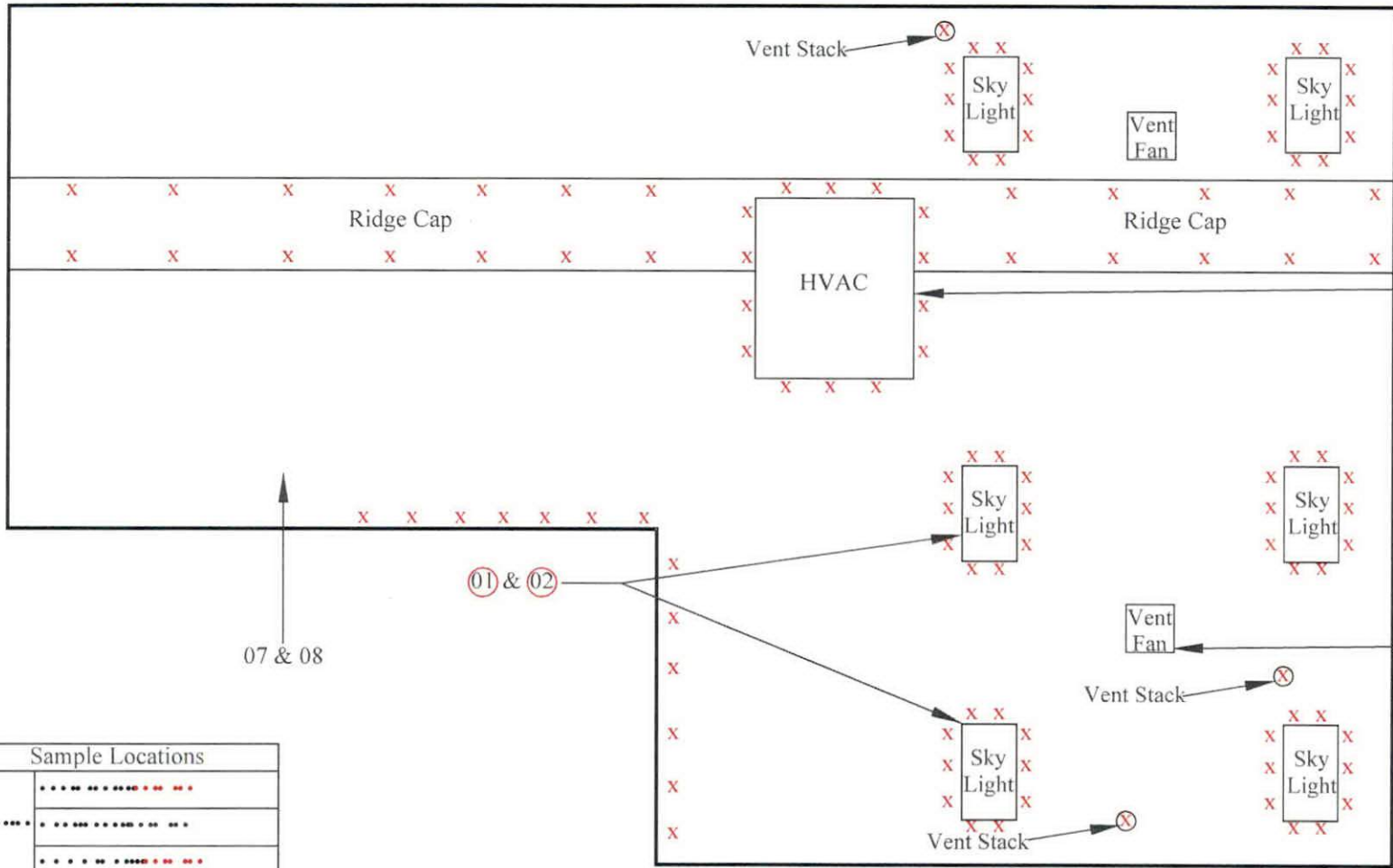
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Suspension" only.

LOQ, Limit of Quantitation estimates for mass and volume analyses.

\*With advance notice and confirmation by the laboratory.

\*\*Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

**ATTACHMENT C**  
**SAMPLE LOCATIONS**



Sample Locations	
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.....	.....
.....	.....
.....	.....



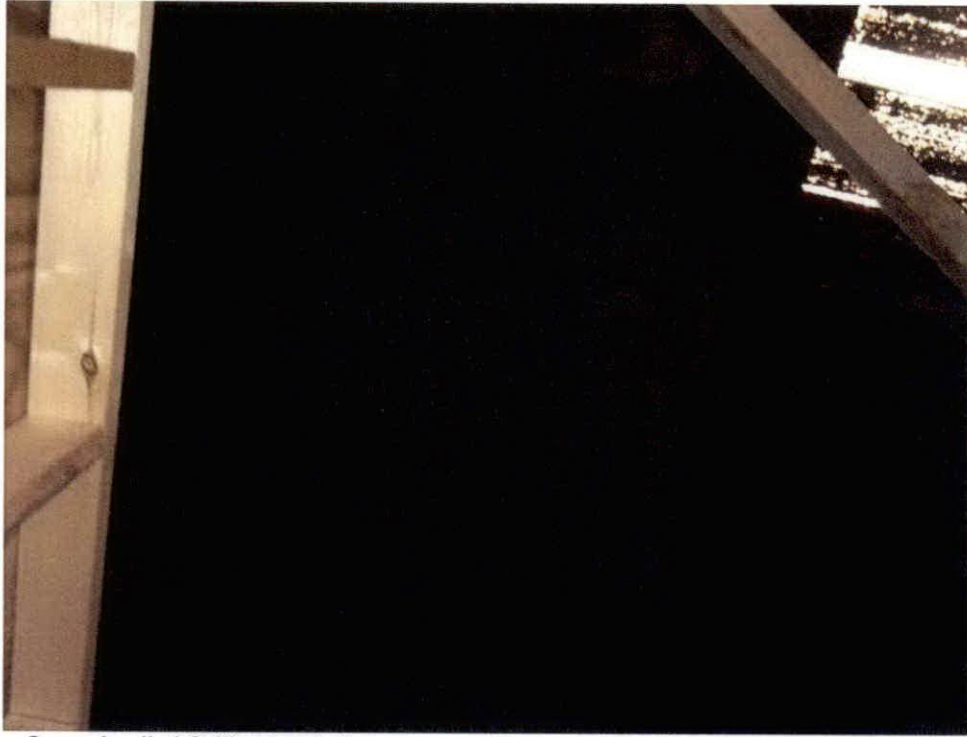
.....	.....
01	.....
03	.....
X	.....

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**ATTACHMENT D**  
**SITE PHOTOS**

Madison County Emergency  
Management Complex  
1633 West Pence Street  
Canton, Mississippi



**Photo 1:** Spray Applied Ceiling Insulation



**Photo 2:** Spray Applied Ceiling Insulation