

CERTIFICATE OF ANALYSIS

Client: MicroAir Consulting  
PO Box 908  
Greenville MI 48838

Report Date: 2/21/2019  
Report No.: 583839 - TEM Dust  
Wipe  
Project: North Park  
Project No.:

Client: MIC637

TEM WIPE SAMPLE ANALYSIS SUMMARY

Lab No.:6720275  
Client No.:NP-W-1

Location: Gym Floor  
Area (cm<sup>2</sup>): 929  
Density (s/mm<sup>2</sup>): 19.2

Concentration (s/cm<sup>2</sup>): 498  
Asbestos Type(s): Chrysotile

Lab No.:6720276  
Client No.:NP-W-2

Location: Stage Floor  
Area (cm<sup>2</sup>): 929  
Density (s/mm<sup>2</sup>): <9.62

Concentration (s/cm<sup>2</sup>): <996  
Asbestos Type(s): None Detected

Lab No.:6720277  
Client No.:NP-W-3

Location: Entry Hall Window Ledge  
Area (cm<sup>2</sup>): 929  
Density (s/mm<sup>2</sup>): 96.2

Concentration (s/cm<sup>2</sup>): 9960  
Asbestos Type(s): Chrysotile

Lab No.:6720278  
Client No.:NP-W-4

Location: Main Office  
Area (cm<sup>2</sup>): 929  
Density (s/mm<sup>2</sup>): <19.2


Concentration (s/cm<sup>2</sup>): <99.6  
Asbestos Type(s): None Detected


Lab No.:6720279  
Client No.:NP-W-FB

Location: FB  
Area (cm<sup>2</sup>): Blank  
Density (s/mm<sup>2</sup>): 7.69

Concentration (s/cm<sup>2</sup>): NA  
Asbestos Type(s): Actinolite

Please refer to the Preface of this report for further information regarding your analysis.

Date Received: 2/19/2019  
Date Analyzed: 02/21/2019  
Signature:   
Analyst: Craig Liska

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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## Appendix to Analytical Report:

**Customer Contact:** Chris Decker  
**Analysis:** ASTM D6480 - 05(2010)

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:** Air Cassettes  
**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.

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

### Information Pertinent to this Report:

Analysis by ASTM D6480 - 05(2010)

Please see our list of international, national, state, provincial, and local certifications at [www.iatl.com](http://www.iatl.com)

TEM settled dust results are dependent upon several factors, including sampling technique. iATL can supply references that may aid in the interpretation of results.

All results are based on the samples as received at the lab. iATL assumes that appropriate sampling methods have been used and that the data upon which these results are based have been accurately supplied by the client.

Method requires submittal of blanks for analysis. Sample results are not corrected for contamination by field or analytical blanks.

### 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 complete list with highlighted disclaimers 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: Sample not analyzed.

(2)Note: Sample not analyzed at request of client.

(3)Note: Sample analysis terminated. Clearance criteria exceeded (average >70.0 s/mm<sup>2</sup>). Set fails by AHERA 40 CFR 763.

(4)Note: Heavy loading (>0.1 s/cc) of non-asbestos particulate that might prohibit the required morphological, diffraction and elemental identification of asbestos. The absence of asbestos on the sample can not be concluded. Analysis for informational purposes only.

(5)Note: Heavy loading (>10% per grid opening) non-fibrous particulate. Sample analysis terminated. Clearance criteria exceeded (>10%). Sample voided by AHERA 40 CFR 763.

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- (5A)Note: Heavy loading (>25% per grid opening) non-fibrous particulate. Sample analysis terminated. Clearance criteria exceeded (>25%). Sample voided by NIOSH 7402.
- (6)Note: Sample turbidity >1.0 NTU. Therefore MDL >> 0.1 MFL. Does not meet National Primary Drinking Water Standards.
- (7)Note: Sample integrity compromised. Received sample cassette with top open (40 CFR 763 c-e).
- (8)Note: Received sample cassettes with portion of filter missing. "PCM re-prep"
- (9)Note: Void - overloaded, unable to prep.
- (10)Note: Void - filter damaged.
- (11)Note: No volume supplied.
- (12)Note: Heavy loading (>0.1 s/cc) of non-asbestos / non-fibrous particulate.
- (13)Note: Method analytical sensitivity of <0.003 s/cc not attained due to volume of air sampled. NIOSH requires a minimum of 400L.
- (13A)Note: Volume does not meet AHERA requirements.<1188 L)
- (14)Note: Geometric Mean = 0.xxxx Structures/cc
- (15)Note: Samples received on 0.8 micron PCM filters. Samples must be submitted on 0.45 micron filter cassettes per AHERA guidelines
- (18)Note: \*Results are for informational purposes only. Samples received on 0.8um PCM cassettes. Per AHERA 40 CFR 763 guidelines samples must be obtained on a 0.45um cassette.

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TEM WIPE SAMPLE ANALYSIS DETAILS

Lab No.:6720275  
Client No.:NP-W-1  
  
Volume Filtered (mL):2  
Dilution Factor (mL):50  
Grid Openings:4  
Opening Area (mm<sup>2</sup>):0.013  
Area Analyzed (mm<sup>2</sup>):0.0520  
Sensitivity (s/mm<sup>2</sup>):19.2  
Detection Limit (s/cm<sup>2</sup>):498

Area Sampled (cm<sup>2</sup>):929  
Location:Gym Floor  
  
Asbestos Structures: 1  
  
Structures < 5 Microns: 1  
Structures ≥ 5 μm: None Detected  
Structure Density (s/mm<sup>2</sup>): 19.2  
Structure Concentration (s/cm<sup>2</sup>): 498  
Asbestos Type(s):  
Chrysotile

Filter Type:MCE  
Filter Size (mm<sup>2</sup>):962  
Pore Size (μm):0.45  
Non-Asbestos Structures:None Detected  
  
Structure Density (s/mm<sup>2</sup>):<19.2  
Structure Concentration (s/cm<sup>2</sup>):<498  
Non-Asbestos Type(s):  
None Detected

Micrograph Number:  
EDXA Spectrum ID:


Lab No.:6720276  
Client No.:NP-W-2  
  
Volume Filtered (mL):0.5  
Dilution Factor (mL):50  
Grid Openings:8  
Opening Area (mm<sup>2</sup>):0.013  
Area Analyzed (mm<sup>2</sup>):0.104  
Sensitivity (s/mm<sup>2</sup>):9.62  
Detection Limit (s/cm<sup>2</sup>):996


Area Sampled (cm<sup>2</sup>):929  
Location:Stage Floor  
  
Asbestos Structures: None Detected  
  
Structures < 5 Microns: None Detected  
Structures ≥ 5 μm: None Detected  
Structure Density (s/mm<sup>2</sup>): ≤9.62  
Structure Concentration (s/cm<sup>2</sup>): ≤996  
Asbestos Type(s):  
None Detected

Filter Type:MCE  
Filter Size (mm<sup>2</sup>):962  
Pore Size (μm):0.45  
Non-Asbestos Structures:None Detected  
  
Structure Density (s/mm<sup>2</sup>):<9.62  
Structure Concentration (s/cm<sup>2</sup>):<996  
Non-Asbestos Type(s):  
None Detected

Micrograph Number:  
EDXA Spectrum ID:

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TEM WIPE SAMPLE ANALYSIS DETAILS


<b>Lab No.:</b> 6720277	<b>Area Sampled (cm<sup>2</sup>):</b> 929	<b>Filter Type:</b> MCE
<b>Client No.:</b> NP-W-3	<b>Location:</b> Entry Hall Window Ledge	<b>Filter Size (mm<sup>2</sup>):</b> 962
<b>Volume Filtered (mL):</b> 0.5	<b>Asbestos Structures:</b> 5	<b>Pore Size (µm):</b> 0.45
<b>Dilution Factor (mL):</b> 50	<b>Structures &lt; 5 Microns:</b> 5	<b>Non-Asbestos Structures:</b> None Detected
<b>Grid Openings:</b> 4	<b>Structures ≥ 5 µm:</b> None Detected	<b>Structure Density (s/mm<sup>2</sup>):</b> <19.2
<b>Opening Area (mm<sup>2</sup>):</b> 0.013	<b>Structure Density (s/mm<sup>2</sup>):</b> <u>96.2</u>	<b>Structure Concentration (s/cm<sup>2</sup>):</b> <1990
<b>Area Analyzed (mm<sup>2</sup>):</b> 0.0520	<b>Structure Concentration (s/cm<sup>2</sup>):</b> <u>9960</u>	<b>Non-Asbestos Type(s):</b>
<b>Sensitivity (s/mm<sup>2</sup>):</b> 19.2	<b>Asbestos Type(s):</b>	None Detected
<b>Detection Limit (s/cm<sup>2</sup>):</b> 1990	Chrysotile	


**Micrograph Number:**  
**EDXA Spectrum ID:**

<b>Lab No.:</b> 6720278	<b>Area Sampled (cm<sup>2</sup>):</b> 929	<b>Filter Type:</b> MCE
<b>Client No.:</b> NP-W-4	<b>Location:</b> Main Office	<b>Filter Size (mm<sup>2</sup>):</b> 962
<b>Volume Filtered (mL):</b> 10	<b>Asbestos Structures:</b> None Detected	<b>Pore Size (µm):</b> 0.45
<b>Dilution Factor (mL):</b> 50	<b>Structures &lt; 5 Microns:</b> None Detected	<b>Non-Asbestos Structures:</b> None Detected
<b>Grid Openings:</b> 4	<b>Structures ≥ 5 µm:</b> None Detected	<b>Structure Density (s/mm<sup>2</sup>):</b> <19.2
<b>Opening Area (mm<sup>2</sup>):</b> 0.013	<b>Structure Density (s/mm<sup>2</sup>):</b> <u>≤19.2</u>	<b>Structure Concentration (s/cm<sup>2</sup>):</b> <99.6
<b>Area Analyzed (mm<sup>2</sup>):</b> 0.0520	<b>Structure Concentration (s/cm<sup>2</sup>):</b> <u>≤99.6</u>	<b>Non-Asbestos Type(s):</b>
<b>Sensitivity (s/mm<sup>2</sup>):</b> 19.2	<b>Asbestos Type(s):</b>	None Detected
<b>Detection Limit (s/cm<sup>2</sup>):</b> 99.6	None Detected	

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**EDXA Spectrum ID:**

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TEM WIPE SAMPLE ANALYSIS DETAILS


Lab No.:6720279  
Client No.:NP-W-FB  
Volume Filtered (mL):50  
Dilution Factor (mL):50  
Grid Openings:10  
Opening Area (mm<sup>2</sup>):0.013  
Area Analyzed (mm<sup>2</sup>):0.130  
Sensitivity (s/mm<sup>2</sup>):7.69  
Detection Limit (s/cm<sup>2</sup>):NA


Area Sampled (cm<sup>2</sup>):Blank  
Location:FB  
Asbestos Structures: 1  
Structures < 5 Microns: 1  
Structures ≥ 5 μm: None Detected  
Structure Density (s/mm<sup>2</sup>): 7.69  
Structure Concentration (s/cm<sup>2</sup>): NA  
Asbestos Type(s):  
Actinolite

Filter Type:MCE  
Filter Size (mm<sup>2</sup>):962  
Pore Size (μm):0.45  
Non-Asbestos Structures:None Detected  
Structure Density (s/mm<sup>2</sup>):<7.69  
Structure Concentration (s/cm<sup>2</sup>):NA  
Non-Asbestos Type(s):  
None Detected

Micrograph Number:  
EDXA Spectrum ID:

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