# PCM Analysis Report

**Project:** McGill Hall  
**Date:** 5/12/97  
**Client ID:** 1023  
**Lab ID:** 97-0512-001-01-07  
**Analyst:** Todd C. Schreiber

## PCM Analysis Table

<table>
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<tr>
<th>Sample Number</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Time (min)</th>
<th>Flow /l/m</th>
<th>Volume /Liters</th>
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<th>Fields</th>
<th>F/CC</th>
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<td>1200,000</td>
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<table>
<thead>
<tr>
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<td>4849</td>
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<td>4850</td>
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**Sample Types:**  
- **PL** = Personal, Breathing Zone  
- **A** = Area  
- **B** = Background, Pre-abatement  
- **F** = Final, Clearance  
- **O** = Outside Regulated Area  
- **I** = Inside Regulated Area  
- **H** = HEPA Exhaust  
- **E** = Excursion  
- **FB** = Field Blank  
- **F/O** = Filter Overload

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
C.1. PCM Air Sample Results

Acceptable fiber concentrations for final clearance air samples analyzed using PCM methodology are less than 0.01 f/cc. The following is a summary of the results of the samples:

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Area and Type of Sample</th>
<th>Result f/cc</th>
</tr>
</thead>
<tbody>
<tr>
<td>120257.048.0-1</td>
<td>Inside Containment, Final Clearance</td>
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<tr>
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<td>0.005</td>
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<tr>
<td>120257.048.0-3</td>
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<td>0.004</td>
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<tr>
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<tr>
<td>120257.048.0-5</td>
<td>Inside Containment, Final Clearance</td>
<td>0.006</td>
</tr>
</tbody>
</table>

*f/cc = fibers per cubic centimeter

D. CONCLUSIONS

MCS Environmental personnel collected all clearance air samples. The clearance samples were analyzed by NIOSH 582 certified Phase Contrast Microscopist Tracy Wicker.

The clearance air samples analyzed using PCM were all within acceptable levels (below 0.01 f/cc).

Abatement Contractors of Montana was the abatement contractor for this project and removed floor tile.
APPENDIX A

AIR SAMPLE RESULTS
<table>
<thead>
<tr>
<th>Sample #</th>
<th>Sample Location</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Inside Containment</td>
<td>Final Clearances</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Inside Containment</td>
<td>Final Clearances</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>Inside Containment</td>
<td>Final Clearances</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>Inside Containment</td>
<td>Final Clearances</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Inside Containment</td>
<td>Final Clearances</td>
<td></td>
</tr>
</tbody>
</table>

**Fiber Concentration (F/CC)**

- 006
- 005
- 004
- 006
May 24, 2006

University of Montana
Mr. Greg Plantz
Facilities Service Bldg #32
Missoula, MT 59812

Project No. 120257.048.0

Dear Mr. Plantz:

MCS Environmental is pleased to provide you with the report for the clearance air sampling that was conducted on May 23rd, 2006, in the basement of McGill Hall, Room 006, University of Montana, Missoula, Montana. The clearance sample sets passed the ARM clearance criteria of less than 0.01 f/cc.

The PCM samples were collected and analyzed by Tracy Wicker, NIOSH 582 certified Phase Contrast Microscopist.

The results of the air samples are listed in the MCS Environmental Air Sample Data Sheet attached in Appendix A.

If you have any questions, or require any clarification concerning this report, please call me at (406) 728-7755. It was a pleasure working with you, and we look forward to working with you again.

Sincerely,

Tracy Wicker
Project Manager

cc: Abatement Contractors of Montana
ASBESTOS ABATEMENT
FINAL AIR CLEARANCE SAMPLING
OF
MCGILL HALL ROOM 209
UNIVERSITY OF MONTANA
MISSOULA, MONTANA

Prepared for:
University of Montana
Attn: Greg Plantz
Facilities Services, Bldg #32
Missoula, MT 59812

Prepared By:
Ms. Tracy Wicker
Mountain Consulting Services, LLC
B. INTRODUCTION

Mountain Consulting Services was contracted by Mr. Greg Plantz with the University of Montana to conduct Phase Contrast Microscopy (PCM) clearance air sampling following an abatement project in room 209 McGill Hall, University of Montana, Missoula, Montana. Mountain Consulting Services personnel conducted clearance air sampling on May 5th, 2009.

Air samples were collected and analyzed by Mountain Consulting Services, LLC personnel using PCM methodology.

C. ANALYTICAL RESULTS

A total of five (5) air samples were collected from room 209 at McGill Hall, University of Montana, Missoula, Montana. The air samples were collected and analyzed by Tracy Wicker, NIOSH 582 certified Phase Contrast Microscopist, and all of the air samples were below the EPA’s definition of clean indoor air of containing less than 0.01 fibers per cubic centimeter (f/cc).

C.1. PCM Air Sample Results

Acceptable fiber concentrations for final clearance air samples analyzed using PCM methodology are less than 0.01 f/cc. The following is a summary of the results of the samples:

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Area and Type of Sample</th>
<th>Result f/cc</th>
</tr>
</thead>
<tbody>
<tr>
<td>M09-025-008.1</td>
<td>Inside Containment, Final Clearance</td>
<td>0.005</td>
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<tr>
<td>M09-025-008.2</td>
<td>Inside Containment, Final Clearance</td>
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<td>0.004</td>
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<td>M09-025-008.5</td>
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<td>0.005</td>
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</tbody>
</table>

*f/cc = fibers per cubic centimeter

D. CONCLUSIONS

Mountain Consulting Services personnel collected all air samples. The air samples were analyzed by NIOSH 582 certified Phase Contrast Microscopist Tracy Wicker.

All air samples were below the EPA’s definition of clean indoor air of containing less than 0.01 fibers per cubic centimeter (f/cc).
APPENDIX A

AIR SAMPLE RESULTS
### AIR SAMPLE DATA SHEET

**Mountain Consulting Services**  
5562 Alloy South, Missoula, Montana 59808  
Phone (406) 728-7755  
Fax (406) 728-7367

**Date:** 5/5/2009  
**Project Number:** M09.025.8  
**Project Title:** McGill  
**Rotameter#:**  
**Calib. Date:**  
**Analitical Method:** NIOSH 7400

**Collected By:** TW  
**Analyzed By:** TW  
**Signature:**  
**Social Security #:**  
**Notes:**

(Fibers/Fields)-(Blank Average/100 fields) x 385 = F/CC  
1000 x (Flow Rate) x (Time) x (MFA)

<table>
<thead>
<tr>
<th>Sample #</th>
<th>Start Flow</th>
<th>Stop Flow</th>
<th>Flow Rate</th>
<th>Fibers</th>
<th>Fields</th>
<th>Sample Location</th>
<th>Description</th>
<th>Notes</th>
<th>Fiber Concentration (F/CC)</th>
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<td>11.90</td>
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<td>8</td>
<td></td>
<td>Final Clearance</td>
<td>Inside Mechanical Room</td>
<td></td>
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<td>3</td>
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<td>11.90</td>
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<td>Inside Mechanical Room</td>
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<td>Inside Mechanical Room</td>
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<td>12.5</td>
<td></td>
<td>Final Clearance</td>
<td>Inside Mechanical Room</td>
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<td>0.005</td>
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**Comments:**  
McGill 209  
Floor tile

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*IWA = Inside Work Area; OWA = Outside Work Area; ENV = Environmental/Negative Air Exhaust; BAR = Barrier; PL = Personal; EX = Excursion; B = Background; F = Final/Clearance*
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**Note:**
- W.O. # 80357
- Collector: R. Hill, 4-24
- Date: 5/8/97
- **Asbestos Air Analysis Report**
- The University of Montana - Missoula
<table>
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<th>Time</th>
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**Asbestos Air Analysis Report**

The University of Montana-Missoula
# PCM ANALYSIS REPORT

**University of Montana**  
Facilities Services (Building #32)  
Missoula, MT 59812  

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Time (min)</th>
<th>Flow (l/min)</th>
<th>Volume (Liters)</th>
<th>Fibers</th>
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<tr>
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<td>A</td>
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<td>139</td>
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<td>100</td>
<td>0.019</td>
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<td>1200.000</td>
<td>3.5</td>
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<td>&lt; 0.002</td>
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<td>1200.000</td>
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<td>100</td>
<td>0.004</td>
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</table>

4844 McGill Hall East Mech. Room Pipe Chase during clean up inside containment, Personal Sample, James Maedche 516-02-1369

4845 McGill Hall East Mech. Room Pipe Chase during clean up inside containment, Area Sample

4846 McGill Hall East Mech. Room Pipe Chase after final cleanup, Final Area Sample

4847 McGill Hall East Mech. Room Pipe Chase after final cleanup, Final Area Sample

4848 McGill Hall East Mech. Room Pipe Chase after final cleanup, Final Area Sample

4849 McGill Hall East Mech. Room Pipe Chase after final cleanup, Final Area Sample

4850 McGill Hall East Mech. Room Pipe Chase after final cleanup, Final Area Sample

PL = Personal, Breathing Zone; A = Area; B = Background, Pre-abatement; F = Final, Clearance; O = Outside Regulated Area; I = Inside Regulated Area; H = HEPA Exhaust; E = Excursion; FB = Field Blank; F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
May 12, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59812

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted May 12, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mge

Encl.
<table>
<thead>
<tr>
<th>W.O. #</th>
<th>30357</th>
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<tr>
<td>Collector</td>
<td>R. Gaugh</td>
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<tr>
<td>Date</td>
<td>5/6/97</td>
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Asbestos Air Analysis Report
University of Montana
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|        | 4842 9, 5, 5, 149.5 5, 0, 6 0.9 5, 6, 7      |

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</table>

Asbestos Air Analysis Report
University of Montana
**PCM ANALYSIS REPORT**

University of Montana  
Facilities Services (Building #32)  
Missoula, MT 59812

Client ID#: 1023  
Lab ID#: 97-0507-001-01-02  
97-0508-001-01-02

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Time (min)</th>
<th>Flow L/m</th>
<th>Volume Liters</th>
<th>Fibers</th>
<th>Fields</th>
<th>F/CC</th>
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<td>18.0</td>
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<td>0.036</td>
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</table>

4840  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Personal Sample, James Maedche 516-02-1369
4841  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Area Sample
4842  McGill Hall East Mech. Room Pipe Chase during cleanup, Breathing Zone, David Agner, 516-58-8993
4843  McGill Hall East Mech. Room Pipe Chase during cleanup inside containment, Area Sample

PL = Personal, Breathing Zone;  A = Area;  B = Background, Pre-abatement;  F = Final, Clearance;  
O = Outside Regulated Area;  I = Inside Regulated Area;  H = HEPA Exhaust;  E = Excursion;  
FB = Field Blank;  F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty 
to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
May 8, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59812

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted May 7 and 8, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area ($/mm^2$), and fibers per cubic centimeter of air sampled ($/cc$)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mge

Encl.
<table>
<thead>
<tr>
<th>Analyte</th>
<th>PC Per CC</th>
<th>LFR</th>
<th>LFT</th>
<th>FTL</th>
<th>Initial Flowmeter</th>
<th>Final Flowmeter</th>
<th>LSF</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Sampled At</th>
<th>Source Number</th>
<th>PNC</th>
<th>PM10</th>
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Removal & HVAC Containment Pressure Suits

M.C. Hall East Mezzanine Lab Class During

Drill Tower SL10-5B-8993

Remover Inside Containment, Breathing Zone

M.C. Hall East Mezzanine Lab Class During

H839

Asbestos Air Analyses Report

University of Montana
PCM ANALYSIS REPORT

University of Montana
Facilities Services (Building #32)
Missoula, MT 59812

Client ID#: 1023
Lab ID#: 97-0506-001-01-02

Project: McGill Hall
Date: 5/7/97
Analyst: Todd C. Schreiber

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<th>Volume Liters</th>
<th>Fibers</th>
<th>Fields</th>
<th>F/CC</th>
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<tr>
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</table>

4838 McGill Hall East Mech. Room Pipe Chase during removal inside containment, Personal Sample, David Agner 516-58-8993
4839 McGill Hall East Mech. Room Pipe Chase during removal inside containment, Area Sample

PL = Personal, Breathing Zone; A = Area; B = Background, Pre-abatement; F = Final, Clearance; O = Outside Regulated Area; I = Inside Regulated Area; H = HEPA Exhaust; E = Excursion; FB = Field Blank; F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
May 7, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59812

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted May 6, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Flowmeter</th>
<th>Initial</th>
<th>Final</th>
<th>Sample</th>
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<th>Minute</th>
<th>Minute</th>
<th>Sample</th>
<th>Initial</th>
<th>Location (Building)</th>
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<td></td>
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<td>4/30</td>
<td>0.325</td>
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</table>

Asbestos Air Analyses Report

University of Montana
PCM ANALYSIS REPORT

University of Montana
Facilities Services (Building #32)
Missoula, MT 59812

Client ID#: 1023
Lab ID#: 97-0502-001-01-04

Project: McGill Hall
Date: 5/2/97
Analyst: Brad W. Burgess

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<tr>
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<th>Sample Date</th>
<th>Time (min)</th>
<th>Flow l/m</th>
<th>Volume Liters</th>
<th>Fibers</th>
<th>Fields</th>
<th>F/CC</th>
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<tr>
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4835 McGill Hall East Mech. Room Pipe Chase during removal inside containment, Area Sample
4836 McGill Hall East Mech. Room Pipe Chase during removal, Personal Sample, James Maedche 516-02-1367
4837 McGill Hall East Mech. Room Pipe Chase during removal, Area Sample

PL = Personal, Breathing Zone; A = Area; B = Background, Pre-abatement; F = Final, Clearance; O = Outside Regulated Area; I = Inside Regulated Area; H = HEPA Exhaust; E = Excursion; FB = Field Blank; F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
May 2, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT  59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted May 1, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Flowmeter</th>
<th>Initial Flowmeter</th>
<th>Total Flowmeter</th>
<th>Total</th>
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<td>39.0</td>
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**Asbestos Air Analysis Report**

University of Montana
| Date       | Location  | Sampled Area | Purpose | Method | Flowmeter | Initial Count | Final Count | Total Count | Flowmeter Flow | Final Count | Initial Count | Final Count | Flowmeter Flow | Final Count | Initial Count | Final Count | Flowmeter Flow | Final Count |
|-----------|-----------|--------------|---------|--------|-----------|---------------|-------------|-------------|-------------|----------------|-------------|---------------|-------------|----------------|-------------|---------------|-------------|----------------|-------------|
| 4/2/74     | Building  | Area Sampled | Testing | 0.7%   | 0.06      | 10.2.0.0.198  | 3.96        | 0.21        | 0.06        | 1.4            | 0.06        | 10.2.0.0.198  | 3.96        | 0.21          | 0.06        | 1.4            | 0.06        | 10.2.0.0.198  | 3.96        |

Asbestos Air Analysis Report
University of Montana
<table>
<thead>
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<th>Time (min)</th>
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<th>Initial Flowmeter</th>
<th>Final Flowmeter</th>
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**Asbestos Air Analysis Report**

University of Montana
# PCM ANALYSIS REPORT

**University of Montana**  
Facilities Services (Building #32)  
Missoula, MT 59812  

**Client ID#:** 1023  
**Lab ID#:** 97-0424-001-01-02  
97-0425-001-01-02  
97-0430-001-01-02  

**Project:** McGill Hall  
**Date:** 4/30/97  
**Analyst:** Brad W. Burgess

<table>
<thead>
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<th>Sample Number</th>
<th>Sample Type</th>
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<th>Flow L/m</th>
<th>Volume Liters</th>
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4827  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Personal Sample,  
David Agner 516-58-8993  

4828  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Area Sample  

4829  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Personal Sample,  
James Maedche 516-02-1367  

4830  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Area Sample  

4832  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Personal Sample,  
David Agner 516-58-8993  

4833  McGill Hall East Mech. Room Pipe Chase during removal inside containment, Area Sample

PL = Personal, Breathing Zone;  
A = Area;  
B = Background, Pre-abatement;  
F = Final, Clearance;  
O = Outside Regulated Area;  
I = Inside Regulated Area;  
H = HEPA Exhaust;  
E = Excursion;  
FB = Field Blank;  
F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
April 30, 1997

UNIVERSITY OF MONTANA  
Facilities Services  
Missoula, MT  59807  

Attn.: Mr. Greg Plantz  

Dear Greg:  

This report contains the result of the air samples submitted April 24, 25 and 30, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:  


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).  

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.  

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.  

Sincerely,  

[Signature]  
Wade K. Johnston  
President  

WKJ/mgc  
Encl.
| Date       | W.O. # | Collector | Location (Building, etc.) | Location (Floor, Room, etc.) | Sample Number | Initial Number | Final Number | Initial Flowmeter | Final Flowmeter | Asbestos Per Sample | Air Per Sample | Total Time | Initial Time | Asbestos Per Sample | Air Per Sample | Total Time | Initial Time | Asbestos Per Sample | Air Per Sample | Total Time | Initial Time |
|------------|--------|-----------|---------------------------|------------------------------|----------------|----------------|--------------|-------------------|------------------|------------------|----------------|------------|-------------|--------------|-------------------|----------------|------------|-------------|-------------------|----------------|------------|-------------|
| 4/23/77    | 2343   | R. Blauen |                            |                              |                |                |              |                   |                  |                 |               |            |             |              |                  |                |            |             |                   |                |            |             |

Asbestos Air Analysis Report
University of Montana
## PCM ANALYSIS REPORT

**University of Montana**  
Facilities Services (Building #32)  
Missoula, MT 59812

**Client ID#:** 1023  
**Lab ID#:** 97-0423-001-002  
**Project:** McGill Hall  
**Date:** 4/23/97  
**Analyst:** Ron Knutson

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sample Type</th>
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<th>Time (min)</th>
<th>Flow L/m</th>
<th>Volume Liters</th>
<th>Fibers</th>
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<th>F/CC</th>
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<tr>
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4825 McGill Hall East Mech. Room Pipe Chase during removal inside containment, Personal Sample,  
James Maedehe, 516-02-1369

4826 McGill Hall East Mech. Room Pipe Chase during removal inside containment, Area Sample,

PL = Personal, Breathing Zone; A = Area; B = Background, Pre-abatement; F = Final, Clearance;  
O = Outside Regulated Area; I = Inside Regulated Area; H = HEPA Exhaust; E = Excursion;  
FB = Field Blank; F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty  
to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
April 24, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted April 23, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
<table>
<thead>
<tr>
<th>W.O.</th>
<th>#.</th>
<th>Collector</th>
<th>Location (Building)</th>
<th>Asbestos Air Analysis Report</th>
<th>Date</th>
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<td>24357</td>
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<td>R. Laughr</td>
<td></td>
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<td>4/8/1979</td>
</tr>
</tbody>
</table>
### PCM ANALYSIS REPORT

 UNIVERSITY OF MONTANA  
 Facilities Services (Building #32)  
 Missoula, MT 59812

Client ID#: 1023  
Lab ID#: 97-0408-001-01

<table>
<thead>
<tr>
<th>Sample Number</th>
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<th>Sample Date</th>
<th>Time (min)</th>
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<th>Volume Liters</th>
<th>Fibers</th>
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4817 McGill Hall East Mech. Room Pipe Chase, Personal Sample, Dave Agner, 516-58-8993

PL = Personal, Breathing Zone; A = Area; B = Background, Pre-abatement; F = Final, Clearance; O = Outside Regulated Area; I = Inside Regulated Area; H = HEPA Exhaust; E = Excursion; FB = Field Blank; F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
April 11, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted April 8, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
University of Montana
Asbestos Air Analysis Report

Date: 4/2/19
Collector: O'Bough
W.O. #: 20357

<table>
<thead>
<tr>
<th>Location (Building)</th>
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<th>Sampler Number</th>
<th>Initial Flowmeter</th>
<th>Final Flowmeter</th>
<th>Total Time Minute</th>
<th>Liters Per Minute</th>
<th>Total Air Liters</th>
<th>Asbestos Concentration Fibers Per CC</th>
<th>Analyst</th>
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<tr>
<td>McGill Hall Room 008A Prior to Start of Work in Pipe Chase, Area Sample</td>
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1/0.
<table>
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<tr>
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<th>Sample Number</th>
<th>Sampler Number</th>
<th>Final Flowmeter</th>
<th>Total Time Minute</th>
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<th>Total Air Liters</th>
<th>Asbestos Concentration Fibers Per CC</th>
<th>Analyst</th>
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<tbody>
<tr>
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Date: 4/7/92
Collector: R. O. Bough
W.O. #: 20357
PCM ANALYSIS REPORT

University of Montana
Facilities Services (Building #32)
Missoula, MT 59812

Client ID#: 1023
Lab ID#: 97-0407-001-01-02

Project: McGill Hall
Date: 4/8/97
Analyst: Dan Bennett

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<th>Time (min)</th>
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<th>Volume Liters</th>
<th>Fibers</th>
<th>Fields</th>
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</table>

4816 McGill Hall Room 008A Pipe Chase, Background Area Sample
4817 McGill Hall East Mech. Room Pipe Chase, Personal Sample, Bob Blough 214-34-1912

PL = Personal, Breathing Zone; A = Area; B = Background, Pre-abatement; F = Final, Clearance;
O = Outside Regulated Area; I = Inside Regulated Area; H = HEPA Exhaust; E = Excursion;
FB = Field Blank; F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty
to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
April 8, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted April 7, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
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Asbestos Air Analysis Report

University of Montana
**PCM ANALYSIS REPORT**

University of Montana  
Facilities Services (Building #32)  
Missoula, MT 59812  

Client ID#: 1023  
Lab ID#: 97-0402-001-01  

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4815 McGill Hall East Mech. Room Pipe Chase, Background Area Sample

PL = Personal, Breathing Zone; A = Area; B = Background, Pre-abatement; F = Final, Clearance; O = Outside Regulated Area; I = Inside Regulated Area; H = HEPA Exhaust; E = Excursion; FB = Field Blank; F/O = Filter Overload.

Samples submitted by the client for analysis. Mountain Laboratories/MCS Environmental limits warranty to proper analysis methods. Mountain Laboratories takes no responsibility for sample procurement.
April 3, 1997

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the result of the air samples submitted April 2, 1997. These air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

[Signature]

Wade K. Johnston
President

WKJ/mgc

Encl.
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Asbestos Air Analysis Report
University of Montana
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**Asbestos Air Analysis Report**

University of Montana
PCM ANALYSIS REPORT

University of Montana
Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Client Project #: 19395
MCS Client Lab #: 5037

Lab ID#: A97-0719 thru 0725
Analyst: Steve Siderius

<table>
<thead>
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<th>Client Number</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Time (min)</th>
<th>Flow l/min</th>
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UM-4807 Breathing zone sample, hallway 100H inside containment during removal. David Agner, SS# 516-58-8993.

UM-4808 Inside work area, hallway 100H during removal.

UM-4809 Clearance sample, hallway 100H.

UM-4810 Clearance sample, hallway 100H.

UM-4811 Clearance sample, hallway 100H.

UM-4812 Clearance sample, hallway 100H.

UM-4813 Clearance sample, hallway 100H.

Client Sample Codes

B = Breathing Zone; E = Excursion; A = Area; I = Inside regulated area; O = Outside regulated area; P = Pre-abatement; CL = Clearance; H = HEPA exhaust; C = Ceiling; FL = Field blank; PA = Post-abatement; F/O = Filter overload.

Samples submitted by the client for analysis. MCS limits warranty to proper analysis methods. MCS takes no responsibility for sample procurement.

Reviewed by: [Signature]

Date: 3-3-97
February 28, 1997

University of Montana
Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob Blough,

This report contains the results of the air samples submitted to us on February 26, 1997 in conjunction with your project #19395. The air samples were analyzed for fiber content and concentration, fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client. The invoice for this service will be submitted separately.

It has been our pleasure providing you with these analytical services. If you have any question regarding this report, please do not hesitate to contact me.

Sincerely,

Karen L. Drader
Laboratory Manager
MCS Environmental, Inc.
Mountain Laboratories

Enclosures:
50370719.725
PCM ANALYSIS REPORT

University of Montana
Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Client Project #: 19395
MCS Client Lab #: 5037

Project: McGill Hall
Lab ID#: A97-0710
Analyst: Steve Siderius

<table>
<thead>
<tr>
<th>Client Number</th>
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<th>Sample Date</th>
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<th>Flow 1/m</th>
<th>Volume Liters</th>
<th>Fiber/Fields</th>
<th>F/CC</th>
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</table>

UM-4806  Area sample, hallway 100H inside containment prior to start of work.

Client Sample Codes

B = Breathing Zone;  E = Excursion;  A = Area;  I = Inside regulated area;  O = Outside regulated area;  P = Pre-abatement;  CL = Clearance;  H = HEPA exhaust;  C = Ceiling;  FL = Field blank;  PA = Post-abatement;  F/O = Filter overload.

Samples submitted by the client for analysis. MCS limits warranty to proper analysis methods. MCS takes no responsibility for sample procurement.

Reviewed by: [Signature]
Date: 3-3-97
February 28, 1997

University of Montana
Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob Blough,

This report contains the results of the air samples submitted to us on February 26, 1997 in conjunction with your project #19395. The air samples were analyzed for fiber content and concentration, fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc) using the following methodology:


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Sincerely,

Karen L. Drader
Laboratory Manager
MCS Environmental, Inc.
Mountain Laboratories

Enclosures:
50370710.710
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Asbestos Air Analysis Report
University of Montana

W.O. # 1992
Collector: R. Brown

Date: 6/16/92
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<td>RB</td>
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</table>

**AIR SAMPLE DATA SHEET**

Missoula, MT 59801
2104 Reserve Stree
Division of AGES Environmental
Mountain Laboratories
August 7, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT  59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted August 6, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²)), and fibers per cubic centimeter of air sampled (f/cc) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mge

Encl.
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<thead>
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<th>Sample</th>
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**Asbestos Air Analysis Report**

University of Montana
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Date: 6/30/1994
Collector: R. Dougherty

Asbestos Air Analysis Report
University of Montana
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</table>
June 20, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted June 20, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President
WKJ/mge
Encl.
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<th>Sample Date</th>
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<th>Long Stop</th>
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<th>Long Total</th>
<th>Short AVG</th>
<th>Long AVG</th>
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**Notes:**
- Date Analyzed: 19-Jul-96
- Resulted By: NC
- Analyzed By: TC5
- Contributed By: CP
- Collected By: RB

**Additional Information:**
- Lab ID #: 96-09-96
- Client ID #: 1023
- Document #: 109-02-02-05
- University of Montana
- Date: 19-Jun-96

**Air Sample Data Sheet**
June 19, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted June 19, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mge

Encl.
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Asbestos Air Analysis Report

University of Montana
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<th>Sampled Area</th>
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<th>Initial Flowmeter</th>
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June 17, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT  59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted June 17, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
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Asbestos Air Analysis Report
University of Montana
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<td>CONDUCTED BY</td>
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<td>COLLECTED BY</td>
<td>RB</td>
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**AIR SAMPLE DATA SHEET**
June 12, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted June 12, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc
Encl.
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<td>COLLECTED BY: RB</td>
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**AIR SAMPLE DATA SHEET**

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Missoula, MT 59801

2140 Reserve Street

Division of Nontoxic Environmental

MOUNTAIN LABORATORIES
June 6, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted June 6, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
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</table>
February 29, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted February 22, 23, 28 and 29, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston  
President

WKJ/mgc

Encl.
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**AIR SAMPLE DATA SHEET**

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<th>SAMPLE NUMBER</th>
<th>SAMPLE NAME</th>
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February 22, 1996

UNIVERSITY OF MONTANA  
Facilities Services  
Missoula, MT 59807  

Attn.: Mr. Greg Plantz

Dear Greg:

This report contains the results of the air samples submitted February 21 & 22, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston  
President  
WKJ/mgc
February 15, 1996

UNIVERSITY OF MONTANA
Facilities Services
Missoula, MT 59807

Attn.: Mr. Bob Blough

Dear Bob:

This report contains the results of the air samples submitted February 14, 1996. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Wade K. Johnston
President

WKJ/mgc

Encl.
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**Summary:**

- Sample: [Sample]
- TCS: 0.040
- T10: 0.040
- 0.440
- 0.040

**Remarks:**

- [Remarks]
- [Signature]

**Date:** 8/31/95

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**Asbestos Air Analytical Report**

University of Montana
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**Date Analyzed:** 9-20-99
**Received By:** MC
**Analyzed By:** TC5
**Collected By:** RB
**Collected By:** RB

**AIR SAMPLE DATA SHEET**

Missouri, MT 98901
2104 Reserve Street
Division of MCS Environmental
MOUNTAIN LABORATORIES
July 27, 1994

Mr. Bob Blough
University of Montana
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted July 27, 1994. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Danny Smitherman
Laboratory Manager
MCS Environmental,
Mountain Laboratories

closures
December 21, 1993

Mr. Bob Blough
University of Montana
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 21, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area ($f$/mm$^2$), and fibers per cubic centimeter of air sampled ($f$/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
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<th>Per Temp</th>
<th>Per Air</th>
<th>Per Condition</th>
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**Asbestos Air Analysis Report**

University of Montana
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December 22, 1993

Mr. Bob Blough
University of Montana
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 22, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
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**MOUNTAIN LABORATORIES**

2101 Reserve St.
Division of Resource Environmental
Missouri, MT 59801
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**Asbestos Air Analysis Report**

University of Montana
## AIR SAMPLE DATA SHEET

**DATE:** 12-15-93  
**CLIENT NAME:** University of Montana  
**DOCUMENT #:** Dec_15b-023.WK1  
**CLIENT ID #:** 1023  
**LAB ID #:** 93-1215-001-01-02  
**COLLECTED BY:** RB  
**COURIERED BY:** RB  
**ANALYZED BY:** SJJ  
**RECEIVED BY:** SE  
**DATE ANALYZED:** 12-15-93

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December 16, 1993

Mr. Bob Blough
University of Montana
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 15, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Suzanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
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Asbestos Air Analysis Report

University of Montana
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**AIR SAMPLE DATA SHEET**

Missoula, MT 59801
210 Reserve Street
Division of MCS Environmental
Mountain Laboratories
December 16, 1993

Mr. Bob Blough
University of Montana
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 16, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
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Asbestos Air Analysis Report
University of Montana
December 13, 1993

Mr. Bob Blough  
University of Montana  
Facilities Services  
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 13, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston  
Lab Analyst  
MCS Environmental,  
Mountain Laboratories

enclosures
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**Record #:** 1021

**Date:** 12-7-93

**Collector:** P. Ellis

**University of Montana**

**Asbestos Air Analysis Report**

**Location (Building, Room, Etc.):** Breathing Zone-Boil Room

**Sample Location:** McGill Hall Attic during Encapsulation

**Sample Area:** McGill Hall Attic during Encapsulation

**Sample No.:** 3775
December 8, 1993

Mr. Bob Blough  
University of Montana  
Facilities Services  
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 8, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston  
Lab Analyst  
MCS Environmental,  
Mountain Laboratories

enclosures
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**Sample Data Sheet**

- Date Analyzed: 09/10/2004
- Received By: SE
- Analyzed By: MK
- Collected By: RH
- Collected On: 09/07/2004

**University of Montana**

**Division of MCE Environmental**

**Mountain Laboratories**
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Asbestos Air Analysis Report
University of Montana
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**Sample Data Sheet**

Date: 1/06/09

Client: [Client Name]

Document #: [Document Number]

Laboratory: [Laboratory Name]

Page 1 of 1

Missoula, MT 59801

204 Reserve Street

Division of MCE Environmental

Mountain Laboratories
December 10, 1993

Mr. Bob Blough  
University of Montana  
Facilities Services  
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 6, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7855.

Sincerely,

Susanne Johnston  
Lab Analyst  
MCS Environmental,  
Mountain Laboratories

enclosures
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**Air Sample Data Sheet**

Missoula MT 59801
2104 Reserve Street
Division of MCS Environmental
Mountain Laboratories
December 3, 1993

Mr. Bob Blough
University of Montana
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted December 2, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

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It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
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</table>

**AIR SAMPLE DATA SHEET**

Missoula, MT 59801
204 Reserve Street
Division of NCCS Environmental Laboratories

Page 1 of 1
November 30, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 29, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
<table>
<thead>
<tr>
<th>Date</th>
<th>Sample Number</th>
<th>Location (Building)</th>
<th>Type</th>
<th>Location in Building, Etc.</th>
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<th>Sample Per Location</th>
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**Asbestos Air Analysis Report**

University of Montana
| Sample | Location (Building, Etc.) | Description | Analysis | Date of Analysis
|--------|--------------------------|-------------|----------|------------------|
| Mull | Mull Mull during excavation | 3744 | | 3-1-72
| Mull Mull | | 14 | 30.2 | 40.2
| Mull Mull | | 20 | 818 | 1017
| Mull Mull | | 15 | 818.9 | 1017
| Mull Mull | | 14 | 818.9 | 1017
| Mull Mull | | 15 | 818.9 | 1017

University of Montana Air Analysis Report

Collector: R. G. Eisele
W.O. #: 1021
Date: 3/13/72

Asbestos Air Analysis Report
November 23, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 23, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
November 18, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 18, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

[Signature]

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
<table>
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<th>Sample</th>
<th>Air Flow (L/min)</th>
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**Asbestos Air Analysis Report**

University of Montana
November 17, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 17, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
November 15, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 15, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

closures
<table>
<thead>
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<th>Analyte</th>
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</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
November 9, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 9, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
<table>
<thead>
<tr>
<th>Analyst</th>
<th>Per CC Plate</th>
<th>Plates</th>
<th>Air Sample</th>
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<th>Final Flowmeter</th>
<th>Location/Building Etc.</th>
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**Asbestos Air Analysis Report**

*University of Montana*

**W.O. # 1021**

**Collector A. Brown**

**Date: 11/4/93**
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<td>SE</td>
</tr>
<tr>
<td>ANALYZED BY:</td>
<td>SJ</td>
</tr>
<tr>
<td>COLLECTED BY:</td>
<td>RB</td>
</tr>
<tr>
<td>SAMPLE #:</td>
<td>11-05-93</td>
</tr>
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</table>

**AIR SAMPLE DATA SHEET**

**MISSOURI**

**210+ Reserve Street**

**DIVISION OF MCE ENVIRONMENTAL**

**MOUNTAIN LABORATORIES**
November 5, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 4, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

[Signature]

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
<table>
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<th>11-04-93</th>
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<td>COLLECTED BY:</td>
<td>RB</td>
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<td>COLLECTED BB:</td>
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### TABLE OF MEASUREMENTS

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</table>
November 4, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 4, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area ($f/mm^2$), and fibers per cubic centimeter of air sampled ($f/cc$)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
November 3, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 3, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
<table>
<thead>
<tr>
<th>Date</th>
<th>11/11/93</th>
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<tr>
<td>W.O. #</td>
<td>1021</td>
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<tr>
<td>Collector</td>
<td>G. Boyle</td>
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</tbody>
</table>

**Asbestos Air Analysis Report**

**University of Montana**
November 2, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 2, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures

Hydrogeology • Engineering • Hydrology • Asbestos Consulting • Environmental Laboratory • Industrial Hygiene • Waste Minimization
<table>
<thead>
<tr>
<th>Sample</th>
<th>Asbestos</th>
<th>Final Time</th>
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**Sample Information**
- **Sample Code:** FF, FS
- **Date:** 11/14/93
- **Time:** 11:20, 11:30, 11:40
- **Location:** Building (Room, etc.)
- **Sample Number:** 111493
- **Laboratory:** University of Montana

**Note:**
- **Asbestos Analysis Report**
- **W.O. # 10-21**
- **Collector:** R. Breck
- **Remarks:** [Handwritten note]
November 1, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted November 1, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area ($f/mm^2$), and fibers per cubic centimeter of air sampled ($f/cc$)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
<table>
<thead>
<tr>
<th>Analyst</th>
<th>Per CC Per</th>
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<th>L/min L/min</th>
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Date: 10/23/93

Asbestos Air Analysis Report
University of Montana
October 29, 1993

University of Montana
Attn: Mr. Bob Blough
Facilities Services
Missoula, MT 59807

Dear Bob:

This report contains the result of the air samples submitted October 28, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:


Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information, and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to call us at (406) 728-7755.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Initial Flowmeter</th>
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Collector: A. Mason

Date: 9/15/93

Asbestos Air Analysis Report
University of Montana
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<th>Stop Time</th>
<th>Avg Volume</th>
<th>Start Period</th>
<th>Total Period</th>
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**Sample Details:**
- **Sample ID:** 990210-001-00-03
- **Received By:** SS
- **Received On:** 10-12-93
- **Collected By:** RB
- **Collected On:** 10-12-93

**Institution:**
- **Client Name:** MT 59081
- **Reserve Sheet:** 214 Reserve Sheet
- **Division of MCS Environmental Laboratory:** Mountain Laboratories
February 10, 1993

Bob Blough
University of MT
Facilities Services Department
Missoula, Montana 59807

Dear Bob,

This report contains the result of the air samples submitted on February 10, 1993. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area \( \text{f/mm}^2 \)), and fibers per cubic centimeter of air sampled \( \text{f/cc} \) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

Susanne Johnston
Lab Analyst
MCS Environmental,
Mountain Laboratories

enclosures
| DATE ANALYZED: | 09-FEB-93 |
| RECOVERED BY: | SB |
| ANALYZED BY: | SB |
| COUNTEERED BY: | RB |
| COLLECTED BY: | RB |

### AIR SAMPLE DATA SHEET

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<th>START RATE</th>
<th>TOTAL RATE</th>
<th>AVG RATE</th>
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- Lab: 930200-100-010-03
- Work Order #: 102-1-1021
- Document #: 93-933-921
- Client Name: University of MT |
- Date: February 9, 1993

Missoula, MT 59801
210A Reserve Street
Division of MCS, Environmental Laboratories
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**Asbestos Air Analysis Report**

University of Montana
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Asbestos Air Analysis Report
University of Montana
| Date | Time | Temp | RH | Flow Rate | Description/Location | Sample Number | Sample ID | Sample Type | Number | NOSH 7400 | Flow Rate | Start Stop | Total Stop | Total Flow Rate | Start Stop | Total Stop | Total Flow Rate | Start Stop | Total Stop | Total Flow Rate | Start Stop | Total Stop | Total Flow Rate | Start Stop | Total Stop | Total Flow Rate |
|------|------|------|----|-----------|----------------------|---------------|-----------|-------------|---------|----------|-----------|------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 0.015 | 0.022 | 0.009 | 0.008 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| 0.005 | 0.009 | 0.008 | 0.007 | 0.006 | 0.005 | 0.004 | 0.003 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 0.002 | 0.009 | 0.008 | 0.007 | 0.006 | 0.005 | 0.004 | 0.003 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 0.001 | 0.009 | 0.008 | 0.007 | 0.006 | 0.005 | 0.004 | 0.003 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 0.000 | 0.009 | 0.008 | 0.007 | 0.006 | 0.005 | 0.004 | 0.003 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Sample Data Sheet

Missouri, MT 59801
2104 Reserve Street
Division of MGS, Environmental
Mountain Laboratories
June 24, 1992

Robert Blough
University of MT
Facilities Services Department
Missoula, Montana 59807

Dear Bob,

This report contains the results of the air sample submitted on June 24, 1992. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

Susan J. Johnston
Lab Analyst
MCS, Environmental, Mountain Laboratories

enclosures
June 1992\24-023.

Polarized Light Microscopy, NVLAP Accreditation • Phase Contrast Microscopy, PAT Participant
<table>
<thead>
<tr>
<th>FE/C</th>
<th>TYPE</th>
<th>NUMBER</th>
<th>DATE PROD. SAMPLE</th>
<th>DATE ANALYZED</th>
<th>DATE RECEIVED</th>
<th>ORDER</th>
<th>RACK</th>
<th>COLLECTED BY</th>
<th>COMPLETED BY</th>
<th>TA</th>
<th>TOTAL START</th>
<th>TOTAL STOP</th>
<th>AVG FLOW RATE</th>
<th>START/STOP</th>
<th>TEMP</th>
<th>COMPLETED BY</th>
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</tr>
</tbody>
</table>

**AIR SAMPLE DATA SHEET**

**MISSOURI, MT 59801**

2704 Reserve Street

**DIVISION OF MCDS ENVIRONMENTAL**

**MOUNTAIN LABORATORIES**
June 24, 1992

Robert Blough  
University of MT  
Facilities Services Department  
Missoula, Montana  59807  

Dear Bob,

This report contains the results of the air sample submitted on June 24, 1992. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

Ronald A. Knuston  
Lab Analyst  
MCS, Environmental,  
Mountain Laboratories

enclosures
June_1992\24c-023.
<table>
<thead>
<tr>
<th>Analyst</th>
<th>Sample</th>
<th>Per ml</th>
<th>Per CC</th>
<th>Air</th>
<th>Per Total Canister</th>
<th>Per Asbestos</th>
<th>Minute Time</th>
<th>Final Flowmeter</th>
<th>Initial Flowmeter</th>
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</table>

**Asbestos Air Analysis Report**

**University of Montana**
<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Sample Type</th>
<th>Sample Number</th>
<th>Sample Date</th>
<th>Description/Location</th>
<th>Start Time</th>
<th>Stop Time</th>
<th>Total Time (min)</th>
<th>Flow Rate</th>
<th>Date of Test</th>
<th>Lab ID</th>
<th>Work Order</th>
<th>Document #</th>
<th>Client Name and #</th>
<th>University #</th>
<th>Client Name and #</th>
<th>University #</th>
</tr>
</thead>
</table>
June 24, 1992

Robert Blough
University of MT
Facilities Services Department
Missoula, Montana 59807

Dear Bob,

This report contains the results of the air sample submitted on June 23, 1992. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area ($f/mm^2$), and fibers per cubic centimeter of air sampled ($f/cc$)) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

Susan J. Johnston
Lab Analyst
MCS, Environmental,
Mountain Laboratories

enclosures
June_1992\24-023.
June 22, 1992

Robert Blough
University of MT
Facilities Services Department
Missoula, Montana 59807

Dear Bob,

This report contains the results of the air sample submitted on June 19, 1992. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area \((f/mm^2)\), and fibers per cubic centimeter of air sampled \((f/cc)\)) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

Susan J. Johnston
Lab Analyst
MCS, Environmental, Mountain Laboratories

enclosures
June_1992\19-023.
| Sample | Sample Type | Sample Description/Location | Flow Rate | Total Flow Period (min) | Stop | Start | Total | Volume | Avg Volume | Fiber Content | Measurements | Results | Date/Time |
|--------|-------------|----------------------------|-----------|------------------------|-----|-----|-------|-------|----------|--------------|-------------|------------|---------|----------|
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |
| 12.4   | 7           | 29                         | 990       | 0.015                  |     |     |       |       |          | 0.0002       |             |           | 7/19/92   |

**Notes:**
- Date/Time: 7/19/92
- Work Order: 9502
- Division of MCS, Environmental Laboratories
- 210 Reserve Street
- Missoula, MT 59801
June 18, 1992

Robert Blough
University of MT
Facilities Services Department
Missoula, Montana  59807

Dear Bob,

This report contains the results of the air sample submitted on June 18, 1992. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

[Signature]
Susan J. Johnston
Lab Analyst
MCS, Environmental,
Mountain Laboratories

enclosures
June_1992\18-023.
<table>
<thead>
<tr>
<th>Sample</th>
<th>Analyte</th>
<th>Per CC Flow</th>
<th>Per CC Activity</th>
<th>Per CC Area</th>
<th>Flowsheet</th>
<th>Flowsheet</th>
<th>Total Time</th>
<th>Total Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana

W.O. # 52327

Collector: F. Z. Mung NC

Date: 6/16/93

9/40/17 - 01 - 001 - 02
<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Sample Type</th>
<th>Description/Location</th>
<th>Sample Date</th>
<th>Flow Rate</th>
<th>Sample Period (and)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 A 9800</td>
<td>A</td>
<td>200 ft.</td>
<td>12/4/98</td>
<td>7 A</td>
<td>200 ft.</td>
</tr>
</tbody>
</table>

**AIR SAMPLE DATA SHEET**

Missoula, MT 59801
2104 Reserve Street
Division of MCS, Environmental Monitoring Laboratories
June 18, 1992

Robert Blough
University of MT
Facilities Services Department
Missoula, Montana 59807

Dear Bob,

This report contains the results of the air sample submitted on June 17, 1992. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

Mountain Laboratories participates in the Proficiency Analytical Testing (PAT) Program (Appendix A) for air sample analysis, governed by the American Industrial Hygiene Association (AIHA).

This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

Susan J. Johnston
Lab Analyst
MCS, Environmental,
Mountain Laboratories

enclosures
June_1992\18-023.
<table>
<thead>
<tr>
<th>START</th>
<th>STOP</th>
<th>TOTAL</th>
<th>AVG</th>
<th>SAMPLE</th>
<th>DESCRIPTION/LOCATION</th>
<th>PATIENT ID</th>
<th>NUMBER</th>
<th>TYPE</th>
<th>SAMPLE</th>
<th>NUMBER</th>
<th>NOSH</th>
<th>SAMPLE</th>
<th>PERIOD (mm)</th>
<th>START PERIOD (mm)</th>
<th>STOP PERIOD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**AIR SAMPLING DATA SHEET**

MISSOULA, MT 59801
2104 Reserve Street
DIVISION OF MCS, ENVIRONMENTAL
MOUNTAIN LABORATORIES
June 18, 1992

Robert Blough
University of MT
Facilities Services Department
Missoula, Montana 59807

Dear Bob,

This report contains the results of the air sample submitted on June 16, 1992. The air samples were analyzed for fiber content and concentration (fibers per square millimeter of filter area (f/mm²), and fibers per cubic centimeter of air sampled (f/cc)) using the following methodology:

NIOSH method 7400, "Fibers", August 15, 1987 revision

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This report contains a summary of the laboratory results, chain of custody information and any sample specific information submitted by the client.

It has been our pleasure providing you with these analytical services. If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

[Signature]

Ronald A. Knutson
Lab Analyst
MCS, Environmental, Mountain Laboratories

enclosures
June_1992\16-023.
March 26, 1991

Gregg Plantz
Technical Services Supervisor
Facilities Services Department
Missoula, Montana 59812

RE: UM 2406, UM 2408 through UM 2411

Location: Swim Pool Mechanical Room, and McGill Hall Men's Shower

Dear Gregg,

Mountain Laboratories has analyzed the air samples taken on March 26, 1991. Using the NIOSH 7400 Method, we have determined the following sample concentration to be:

<table>
<thead>
<tr>
<th>SAMPLE LOCATION</th>
<th>SAMPLE #</th>
<th>F/CM³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Sample</td>
<td>UM 2406</td>
<td>0.114</td>
</tr>
<tr>
<td>Area Sample</td>
<td>UM 2408</td>
<td>0.049</td>
</tr>
<tr>
<td>Breathing Zone Bob Blaugh</td>
<td>UM 2409</td>
<td>0.030</td>
</tr>
<tr>
<td>Area Sample</td>
<td>UM 2410</td>
<td>0.005</td>
</tr>
<tr>
<td>Area Sample</td>
<td>UM 2411</td>
<td>0.003</td>
</tr>
</tbody>
</table>

If you have any questions, please do not hesitate to contact us.

Sincerely,

Raphael R. Roberts
Lab Manager
MCS, Inc., Mountain Laboratories

RRR/jag
enclosures
<table>
<thead>
<tr>
<th>W.O. #</th>
<th>Date</th>
<th>Collector</th>
<th>Asbestos Air Analysis Report</th>
<th>University of Montana</th>
</tr>
</thead>
<tbody>
<tr>
<td>1021</td>
<td>3/25/19</td>
<td>00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Location (Building)</td>
<td>Sample Number</td>
<td>Initial Flowmeter</td>
<td>Fluegas Flowmeter</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------</td>
<td>---------------</td>
<td>-------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>9/2/10</td>
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</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
September 27, 1990

Gregg Plantz
Technical Services Supervisor
Facilities Services Department
Missoula, Montana 59812

RE: UM 2148, UM 2149, and UM 2150
Location: 615 South 6th and McGill Hall

Dear Gregg,

Mountain Laboratories has analyzed the air sample taken on September 27, 1990. Using the NIOSH 7400 Method, we have determined the following sample concentration to be:

<table>
<thead>
<tr>
<th>SAMPLE LOCATION</th>
<th>SAMPLE #</th>
<th>F/CM3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Sample</td>
<td>UM 2148</td>
<td>0.004</td>
</tr>
<tr>
<td>Personal (Bob Logan)</td>
<td>UM 2149</td>
<td>0.060</td>
</tr>
<tr>
<td>Area Sample</td>
<td>UM 2150</td>
<td>0.041</td>
</tr>
</tbody>
</table>

If you have any questions, please do not hesitate to contact us.

Sincerely,

Raphael R. Roberts
Manager
MCS, Inc., Mountain Laboratories

RRR/jag
enclosures
<table>
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<td>Asbestos Air Analysis Report</td>
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<tr>
<td>University of Montana</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyst</td>
<td>Per CC</td>
<td>Per Mrs.</td>
<td>Per Min.</td>
<td>Total</td>
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Asbestos Air Analysis Report
University of Montana
<table>
<thead>
<tr>
<th>Analyte</th>
<th>PCP</th>
<th>PER</th>
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<th>Total</th>
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</table>

Collector: AB
Date: 9/10/99

Asbestos Air Analyses Report
University of Montana
<table>
<thead>
<tr>
<th>Per</th>
<th>Per CC</th>
<th>Fumes</th>
<th>Total</th>
<th>Min Read</th>
<th>Max Read</th>
<th>Total</th>
<th>Initial</th>
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</tbody>
</table>

**Exchange RM or Area Sample**

MC Cili Hull Building Room: 619.4156

**Date:** 8/27/99

**Collector:** 

---

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Time</th>
<th>Flowmeter</th>
<th>Initial Flowmeter</th>
<th>Total Time</th>
<th>Total Flowmeter</th>
</tr>
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<tbody>
<tr>
<td>3/4/19</td>
<td>Outside Elevate Residence Room E-308</td>
<td>16:43</td>
<td>0.05</td>
<td>130.5</td>
<td>5.0</td>
<td>65.0</td>
</tr>
</tbody>
</table>

Asbestos Air Analysis Report
University of Montana
<table>
<thead>
<tr>
<th>Date</th>
<th>PM 1.0</th>
<th>PM 2.5</th>
<th>PM 10</th>
<th>Material</th>
<th>Initial Flowmeter</th>
<th>Final Flowmeter</th>
<th>Initial Number</th>
<th>Final Number</th>
<th>Average Air Per Minute (L/min)</th>
<th>Air Per Total Minute (L/min)</th>
<th>Location (Building, etc.)</th>
<th>Personal or Area Samples, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2/2018</td>
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</tbody>
</table>

Asbestos Air Analysis Report
University of Montana
<table>
<thead>
<tr>
<th>Date</th>
<th>Initial</th>
<th>Final</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/6/07</td>
<td></td>
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</tr>
</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Collector</th>
<th>Date</th>
<th>Asbestos Air Analysis Report</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8/11/93</td>
<td>University of Montana</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample</th>
<th>Initial Flowmeter</th>
<th>Final Flowmeter</th>
<th>LML</th>
<th>Number</th>
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<tbody>
<tr>
<td>MC Hall</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Area Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Duration: 01/15/93 to 01/15/94

Analysis by:)

Remarks:
- Reporting Zone:
- Location: Building (Room, Etc.)
- Name of Area Sample(s), Etc.

**Note:** The table and text are taken from a handwritten report, which may contain errors or ambiguities in handwriting.
<table>
<thead>
<tr>
<th>Date</th>
<th>PM Sample</th>
<th>PM Mill</th>
<th>Total</th>
<th>Airflow</th>
<th>Flowmeter</th>
<th>Initial</th>
<th>Sample Number</th>
<th>Location (Building, Room, Etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/31/99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Date/Time</th>
<th>Location</th>
<th>Sample No.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Sample</td>
<td>2/27/89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Analysis</th>
<th>PM</th>
<th>PM</th>
<th>TWA</th>
<th>Total</th>
<th>Median</th>
<th>Final</th>
<th>Interim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Removal in Room:** Area Sample

**MC Hall:**
- 10/01 10:00 2000
- 09/15 15:30 0 15
- 09/15 15:00 0 15
- 09/16 22
- 09/16 22

**MC Hall Room During Removal:**
- 10/01 10:00 2000
- 09/15 15:30 0 15
- 09/15 15:00 0 15
- 09/16 22
- 09/16 22

**Area Sample**: Breath Ring Zone / Lab Structure

**MC Hall Room During Removal:**
- 10/01 10:00 2000
- 09/15 15:30 0 15
- 09/15 15:00 0 15
- 09/16 22
- 09/16 22

**Breathing Zone Per Location**

---

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Temperature</th>
<th>Relative Humidity</th>
<th>Humidity</th>
<th>Fluctuation</th>
<th>Initial Sample</th>
<th>Final Sample</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.F.</td>
<td>3/15 15.30</td>
<td>20.0</td>
<td>50.0</td>
<td>15.0</td>
<td>20.0</td>
<td>Sample</td>
<td>Sample</td>
<td>Notes</td>
</tr>
<tr>
<td>P.F.</td>
<td>5/15 15.00</td>
<td>22.0</td>
<td>55.0</td>
<td>18.0</td>
<td>25.0</td>
<td>Sample</td>
<td>Sample</td>
<td>Notes</td>
</tr>
<tr>
<td>P.F.</td>
<td>7/15 15.15</td>
<td>23.0</td>
<td>60.0</td>
<td>20.0</td>
<td>30.0</td>
<td>Sample</td>
<td>Sample</td>
<td>Notes</td>
</tr>
<tr>
<td>P.F.</td>
<td>9/15 15.30</td>
<td>24.0</td>
<td>65.0</td>
<td>22.0</td>
<td>35.0</td>
<td>Sample</td>
<td>Sample</td>
<td>Notes</td>
</tr>
<tr>
<td>P.F.</td>
<td>11/15 15.45</td>
<td>25.0</td>
<td>70.0</td>
<td>24.0</td>
<td>40.0</td>
<td>Sample</td>
<td>Sample</td>
<td>Notes</td>
</tr>
</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Result</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/18/99</td>
<td></td>
<td></td>
<td>Abatement</td>
</tr>
<tr>
<td>7/15/99</td>
<td>8:05</td>
<td></td>
<td>Abatement</td>
</tr>
<tr>
<td>7/16/00</td>
<td>11:05</td>
<td></td>
<td>Abatement</td>
</tr>
<tr>
<td>7/18/00</td>
<td>11:10</td>
<td></td>
<td>Abatement</td>
</tr>
</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Person(s) or Area Samples, Etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/29/99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Asbestos Air Analysis Report
University of Montana
<table>
<thead>
<tr>
<th>Analyst</th>
<th>Initial</th>
<th>Flue Meter</th>
<th>Initial Flue Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Asbestos Air Analysis Report**

University of Montana
<table>
<thead>
<tr>
<th>Asbestos</th>
<th>Air分析</th>
<th>University of Montana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>Result 1</td>
<td>Description 1</td>
</tr>
<tr>
<td>Sample 2</td>
<td>Result 2</td>
<td>Description 2</td>
</tr>
<tr>
<td>Sample 3</td>
<td>Result 3</td>
<td>Description 3</td>
</tr>
</tbody>
</table>

Note: This table is an example of asbestos analysis data collection and does not reflect the actual data from the image.
<table>
<thead>
<tr>
<th>Analyst</th>
<th>Airflow</th>
<th>Flowmeter</th>
<th>Initial</th>
<th>Final</th>
<th>Sample Number</th>
<th>Location of Air Pump</th>
<th>Location of Building Room or Etc.</th>
<th>Comment</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.04</td>
<td>5.0</td>
<td>7.5</td>
<td>18400</td>
<td>18400</td>
<td>14139</td>
<td>200</td>
<td>1357</td>
<td>PC-0C</td>
<td>5/1/99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Asbestos Air Analysis Report

University of Montana
<table>
<thead>
<tr>
<th>Analyst</th>
<th>CC Per Fiber</th>
<th>Flocks</th>
<th>Air Concen</th>
<th>Total Fios</th>
<th>Asbes-</th>
<th>Total Min Lites</th>
<th>Min Time</th>
<th>Final Flowmeter</th>
<th>Initial Flowmeter</th>
<th>Sample</th>
<th>(cm)</th>
<th>Number</th>
<th>Location In Building (Room, Etc.)</th>
<th>Personal Or Area Samples, Etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Collector:  
Date: 9/29/86  

UNIVERSITY OF MONTANA
August 12, 1983

Ken Willett
Security Department
University of Montana
Missoula, MT 59801

Dear Mr. Willett:

This letter contains the report of the occupational health inspection of the asbestos-containing pipe coverings on the University of Montana campus.

Many studies have proved conclusively that exposure to asbestos causes asbestosis and cancer in humans. Excessive numbers of cancers (mesotheliomas, lung and gastrointestinal) have been found in occupationally-exposed persons. Mesotheliomas have developed in humans living in the vicinity of asbestos factories, asbestos deposits and in persons living with asbestos workers. The NIOSH revised recommended asbestos standard states that "excessive cancer risks have been demonstrated at all fiber concentrations studied to date. Evaluation of all available human data provides no evidence for a threshold or for a safe level of asbestos exposure." All possible precautions must be taken to protect workers from asbestos dust.

Twenty-five bulk samples were collected. All samples were examined by polarized light microscopy. All but one contained asbestos. The results of these analyses are listed below:

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Location</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Men's Gym (Mechanical Room - pipe covering lying on floor)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>13</td>
<td>Men's Gym (pipe covering from west tunnel - this tunnel is used as an air duct)</td>
<td>chrysotile and amosite asbestos</td>
</tr>
<tr>
<td>14</td>
<td>Men's Gym (Mechanical Room - corrugated pipe covering)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>15</td>
<td>Men's Gym (corrugated pipe covering lying in perimeter tunnel)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>16</td>
<td>Chem.-Pharm. Bldg. (pipe covering in tunnel branch to Journalism)</td>
<td>chrysotile and amosite asbestos</td>
</tr>
<tr>
<td>Sample No.</td>
<td>Location</td>
<td>Results</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>17</td>
<td>Chem.-Pharm. Bldg. (floor spill in tunnel to Journalism)</td>
<td>chrysotile and amosite asbestos</td>
</tr>
<tr>
<td>18</td>
<td>Chem.-Pharm. Bldg. (pipe covering - Mechanical Room)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>19</td>
<td>Chem.-Pharm. Bldg. (floor spill in Mechanical Room)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>20</td>
<td>Journalism Bldg. (pipe covering in Mechanical Room)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>21</td>
<td>Venture Center (floor spill)</td>
<td>no asbestos fibers</td>
</tr>
<tr>
<td>22</td>
<td>Manhole between Forestry &amp; Journalism (pipe covering in poor shape)</td>
<td>chrysotile and amosite asbestos</td>
</tr>
<tr>
<td>23</td>
<td>Forestry (pipe covering - Mechanical Room)</td>
<td>amosite asbestos</td>
</tr>
<tr>
<td>24</td>
<td>Math Bldg. (pipe covering - Mechanical Room - never taped)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>25</td>
<td>Alumna Bldg. (pipe covering - Mechanical Room)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>26</td>
<td>Music Bldg. (pipe covering - Mechanical Room tunnel - fan)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>27</td>
<td>Music Bldg. (pipe covering - Rm. #15)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>28</td>
<td>Music Bldg. (pipe covering - Rm. #14)</td>
<td>chrysotile and amosite asbestos</td>
</tr>
<tr>
<td>29</td>
<td>Music Bldg. (pipe covering - Pent-house)</td>
<td>amosite asbestos</td>
</tr>
<tr>
<td>30</td>
<td>Fine Arts (pipe covering - basement)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>31</td>
<td>Fine Arts (pipe covering - basement)</td>
<td>amosite asbestos</td>
</tr>
<tr>
<td>32</td>
<td>Women's Center (pipe covering - Rm. #031)</td>
<td>amosite asbestos</td>
</tr>
<tr>
<td>33</td>
<td>Women's Center (floor spill - Rm. #031)</td>
<td>amosite asbestos</td>
</tr>
<tr>
<td>34</td>
<td>Women's Center (floor spill - Rm. #014)</td>
<td>chrysotile and amosite asbestos</td>
</tr>
<tr>
<td>35</td>
<td>Women's Center (floor spill - Rm. #015)</td>
<td>chrysotile asbestos</td>
</tr>
<tr>
<td>36</td>
<td>Women's Center (pipe covering - Rm. #015)</td>
<td>chrysotile asbestos</td>
</tr>
</tbody>
</table>

In all areas inspected there was either untaped asbestos pipe covering, damaged pipe covering, or scrap asbestos contamination, or several of the above. An effort must be made to correct this situation. Some of the tunnels containing asbestos serve as air ducts for the whole building.

All contractors, their employees, and U of M employees must be notified if they are to work on or remove suspected asbestos materials. The workers must use adequate protective equipment for the job. Wet methods for asbestos removal and cleanup must be used. Workers must be trained to properly wear...
respirators. They must be supplied with respirators approved by NIOSH for asbestos. It is suggested that each worker have his own respirator. After the job is completed, the work area must be inspected to insure that all scrap asbestos materials were cleaned up and that all pipe coverings, etc., have been adequately resealed.

The use of the Profo-Bag to remove asbestos pipe coverings can provide adequate worker protection. However, a HEPA-Vacuum must be available (filter efficiency of 99.95% at 0.3 microns particle size). I don't believe the system you now have is adequate.

Please notify this office within thirty days of your plans for corrective action.

Sincerely,

William A. Hooper
Industrial Hygienist

WAH:kh

cc: Ken Read, R.S.
December 9, 1983

Ken Willett
Safety and Security Manager
University of Montana
Missoula, Montana 59812

Dear Mr. Willett:

This letter contains the report of the investigation into airborne asbestos concentrations in various locations on the campus.

The occupational health standards for asbestos are based on the concept of a time weighted average (TWA) concentration of a contaminant measured over a full work day. In buildings containing asbestos materials, the airborne concentration of asbestos is generally quite low; i.e., 0.000 to 0.01 fibers per cubic centimeter where all fibers measured are over five micrometers in length (fibers/cm$^3$ > 5 um in length). Some schools in Montana have had levels as high as 0.08 fibers/cm$^3$ > 5 um. The EPA discourages the use of airborne asbestos sampling in schools except during asbestos abatement operations. There are several reasons for the EPA stand: (1) There are no standards for airborne asbestos in non-occupational environments. (2) There is no evidence that any airborne level of asbestos is absolutely safe. Some cancer risk is present at any level, although NIOSH feels that this risk is materially reduced at levels below 0.1 fiber/cm$^3$ > 5 um in length.

The TWA occupational health standards pertinent to this report are listed below:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Fibers/cm$^3$ &gt; 5 um in length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mont. Dept. of Health</td>
<td>2</td>
</tr>
<tr>
<td>OSHA</td>
<td>2 (0.5 was rescinded by federal court)</td>
</tr>
<tr>
<td>NIOSH (recommended)</td>
<td>0.1</td>
</tr>
</tbody>
</table>

The airborne concentrations of asbestos fibers found at various locations on the University of Montana campus are listed below:
<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Fibers/cm$^3$ &gt; 5 um in length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women's Center - Room 30 (worker replacing suspended ceiling)</td>
<td>11/15/83</td>
<td>0.011</td>
</tr>
<tr>
<td>Women's Center - Room 31 (Mechanical Room), in auxiliary tunnel, south end</td>
<td>11/15/83</td>
<td>0.010</td>
</tr>
<tr>
<td>Elrod Hall - basement - Room 25 (Weight Room)</td>
<td>11/15/83</td>
<td>0.009</td>
</tr>
<tr>
<td>Elrod Hall - basement - Room 17A (Mechanical Room)</td>
<td>11/15/83</td>
<td>none detected (less than 0.004)</td>
</tr>
<tr>
<td>Women's Center - Preschool Classroom</td>
<td>11/16/83</td>
<td>none detected (less than 0.004)</td>
</tr>
<tr>
<td>Men's Gym (tunnel to the right of stairs)</td>
<td>11/16/83</td>
<td>none detected (less than 0.003)</td>
</tr>
<tr>
<td>Science Complex - Geology - Room 315</td>
<td>11/16/83</td>
<td>none detected (less than 0.004)</td>
</tr>
<tr>
<td>Health Science Building - Room 103A</td>
<td>11/17/83</td>
<td>sample lost</td>
</tr>
<tr>
<td>Music Building - foyer near office</td>
<td>11/17/83</td>
<td>0.017</td>
</tr>
<tr>
<td>University Center (Ballroom - near projector room)</td>
<td>11/17/83</td>
<td>none detected (less than 0.004)</td>
</tr>
</tbody>
</table>

Although these airborne asbestos levels are quite low, it should not be assumed that all levels on the campus are similar. In particular, worker exposures in the tunnels and mechanical rooms during asbestos removal operations may be considerably higher.

Thank you for your cooperation.

Sincerely,

[Signature]

William A. Hooper
Industrial Hygienist

WAH:kh

cc: Ken Read, R. S.
Steve Laughrun