MONTANA STATE UNIVERSITY

**CAMPUS PLANNING, DESIGN & CONSTRUCTION**
Sixth Avenue and Grant Street • P.O. Box 172760 • Bozeman, Montana 59717-2760
Phone: (406) 994-5413 • Fax: (406) 994-5665

# ADDENDUM NO. 1 - OUTLINE AND SUMMARY INFORMATION

| | | | |
|---|---|---|---|
| Project Name: | MSU Marsh 40, 41, 54 HVAC Upgrade | PPA No.: | 25-1248 |
| Location: | Montana State University - Bozeman | Date: | 1/6/2025 |
| Owner: | State of Montana, MSU – Bozeman | | |
| | Plew Building 6th and Grant, PO Box 172760 | | |
| | Bozeman, Montana 59717-2760 | | |

*To: All Plan Holders of Record*

*The Plans and Specification prepared by Consulting Design Solutions dated **December 5th 2025** shall be clarified and added as follow. The bidder proposes to perform all the following clarifications or changes. It is understood that the Base Bid shall include any modification of Work or Additional Work that may be required by reason of the following change or clarifications.*

*The Bidders are to acknowledge the receipt of this Addendum by inserting its number and date into their Bid Forms. Failure to acknowledge may subject the Bidder to disqualification and rejection of the bid. This Addendum forms part of the Contract Documents as if bound therein and modifies them as follows:*

1. AMENDMENTS TO THE PROJECT MANUAL

    a. Specifications: Updated asbestos report dated December 22, 2025 has been attached. This report has updated room numbers and includes samples collected in Room 105 (which were negative for asbestos).

2. AMENDMENTS TO THE DRAWINGS

    a. None at this time.

3. AMENDMENTS TO EQUIPMENT INFORMATION

    a. None at this time.

4. PRE-BID MEETING INFORMATION

    a. Condensate routing was looked at on site and the basis of design routing appeared to be confirmed. Routing of this pipe to the tailpiece of the existing sink is the best option at this time.

    b. Asbestos floor mastic was discussed with some questions about who is responsible for conducting the mitigation. The general contractor of this project is responsible for hiring a mitigation contractor.

    c. One Controls question was asked about how many front-end contacts will be required. This item will need to be discussed and coordinated with Electro Controls. Contact information for Electro Controls is on the drawings.

Filename and path

d. The asbestos report was updated with samples from the electrical room, and none were positive.

5. PRIOR APPROVALS

   a. None at this time.

6. ATTACHMENTS

   a. Pre-bid meeting attendance list

   b. Pre-bid meeting agenda

   c. Updated asbestos report dated December 22, 2025

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# PREBID MEETING SIGN-IN SHEET

Project Name: MSU Marsh 40, 41, 54 HVAC Upgrade

PPA No.: 25-1248

Date: 12/30/25

*Please provide the following information:*

| Name: | Company/Email: | Phone: |
|---|---|---|
| RCI - Monte Weimer | monte@rothconst.com | 402-220-8260 |
| Ben Hommen | benh@3econtractors.com | 406-451-3363 |
| Tanner Whitlock | twh.mech@cdsiengineering.com | 4065706048 |
| Russ Christian | russ.christian@tcment.com | 406.224.3070 |
| Neil Jorgensen | Neil Jorgenson @ --- | 406 994-2107 |
| Jacob Carter | jcarter@prgcommercialmt.com | 406-579-5519 |
| Cole Clevenger | Colec@BozemanAirControls.com | 406-600-9305 |
| Andrew Stolck | andrew.stolck@tcment.com | 406-431-3221 |
| Chris Doyle | cdoyle@cdsiengineering.com | 406 270 9986 |
| Dan Boking | Williams Plumbing dboking@willplumb.com | 406-922-5415 |
| Philip Nuschler | Williams Plumbing pnuschler@willplumb.com | 225-287-4173 |
| Todd Cook | MSU Todd.Cook1 @ Montana.Edu | 406-994-5480 |
| James Schnee | MSU Facilities james.schnee@montana.edu | 994-7622 |

# PRE-BID MEETING AGENDA

Project: MSU Marsh 40, 41, 54 HVAC Upgrade PPA 25-1248
From: Todd Cook, Facilities Engineer, 406-994-5480
Date: 12/30/25

1. Sign in sheet / introductions

2. Availability of contract documents – MSU website

3. Arrangement of Work:
    a. Related work being performed by MSU or other contractors.?
    b. Use of building areas for construction ?
    c. Laydown area next to Vet Shop Quonset

4. Bidding Considerations:
    a. Plan review fees and building permit fees paid by owner. Subcontractor permit fees paid by contractor. CDS to submit after pre-bid.
    b. Bid opening Tuesday, 01/13/26, 2pm
    c. Bid security of 10% of bid for all projects over $150,000.
    d. Deadline for substitution and addenda, Tuesday, 01/06/26
    e. Performance, labor, and material bonds for 100%, for projects over $150,000
    f. State tax of 1% for projects over $80,000
    g. Prevailing wages for projects over $25,000
    h. General liability, Owner protective liability, and property insurance in MSU name.
    i. Completion of project June 30th 2026.
    j. Liquidated damages of $100 per day.
    k. Monthly project meetings during construction phase.

5. Review drawings and technical specification.
    a. Asbestos report was updated with scope on north end of building, no additional asbestos was found.

6. Questions that have been raised since bid documents sent out.

7. Open discussion of project and related questions.

8. Project walk-through

TETRA TECH

December 22, 2025

Mr. Loras O'Toole
Facilities Services
Montana State University
P.O. Box 172760
Bozeman, Montana 59715

Delivered via email: loras@montana.edu

**SUBJECT:** **Pre-Renovation Asbestos Inspection Report**
40, 41, 54 HVAC Upgrade Project
Marsh Laboratory
Montana State University
Bozeman, Montana
Work Order No. 264460
Tetra Tech Project No. 117-001068-26004

Dear Mr. O'Toole:

On October 20, 2025, and December 9, 2025, Tetra Tech, Inc. (Tetra Tech) conducted a pre-renovation asbestos inspection at the above-referenced site. Based on correspondence with you before the commencement of the project, Tetra Tech was instructed to inspect for suspect asbestos-containing materials (ACM) associated with the Heating Ventilation and Air Conditioning (HVAC) future installation project. Details of our inspection are provided below.

## PRE-RENOVATION ASBESTOS INSPECTION

The pre-renovation asbestos inspection was conducted in accordance with the Administrative Rules of Montana (ARM) 17.74.354, using the currently recognized standard protocol developed under the National Emission Standards for Hazardous Air Pollutants (NESHAP) and the Asbestos Hazard Emergency Response Act (AHERA), as administered by the State of Montana Department of Environmental Quality (MDEQ).

Mr. Chanc Lawrence of Tetra Tech, MDEQ Accredited Asbestos Inspector, collected samples of suspect ACM. **Attachment A** provides his MDEQ Asbestos Inspector Accreditation.

The bulk samples were shipped, along with the completed chain of custody (COC) documentation, to Crisp Analytical of Carrollton, Texas, for the analysis of asbestos fibers by polarized light microscopy (PLM) using U.S. Environmental Protection Agency (EPA) Methods described in 40 CFR Part 763 Appendix E Subpart E (Interim and EPA 600/R-93 / 116 (Improved). A copy of the bulk asbestos laboratory analytical report and COC is provided in **Attachment B**.

A summary of the ACM identified to contain greater than 1% asbestos is provided in **Table 1**. Approximate sample collection locations are provided in **Figure F-01** and approximate ACM locations in **Figure F-02**.

**Table 1. Summary of ACM**

| HA Number | Material Description and Location | Percent Asbestos | Material Type | NESHAP Category |
|---|---|---|---|---|
| ML-F3.3 | Tan and black mastics associated with non-asbestos 12-inch by 12-inch gray and white mottle pattern vinyl floor tile located in Room 28 | Tile: ND<br>Mastics: 2% Chrysotile | Miscellaneous | Category I Non-Friable |

HA = Homogeneous Area Number, NESHAP = National Emission Standard for Hazardous Air Pollutants, and ND = Non-Detect

According to state and federal regulations, the ACM identified in **Table 1** must be removed before disturbance. The ACM must be removed by a licensed asbestos abatement contractor using appropriate asbestos abatement methods and procedures following applicable state and federal regulations. Following the completion of asbestos removal, a visual inspection and asbestos air clearance should be conducted as required by ARM 17.74.357. Any contractor preparing to bid or perform work on the site should be informed of the potential presence of ACM. Contractors should also be informed of compliance requirements under current state and federal regulations.

A summary of the ACM identified to contain 1% or less asbestos is provided in **Table 2**. Approximate ACM locations are provided in **Figure F-02**.

**Table 2. Summary of Materials Containing 1% or Less Asbestos**

| HA Number | Material Description and Location | Percent Asbestos |
|---|---|---|
| ML-F3.2 | Tan and black mastics associated with 12-inch by 12-inch gray and white mottle pattern vinyl floor tile located in Room 51 | Tile: ND<br>Mastics: 0.75% Chrysotile$_1$ |

HA: Homogeneous Area Number, < = Less Than, ND = Non-Detect, $_1$ = HA further analyzed by PLM point count

Based on the asbestos concentration associated with the analysis of the material identified in **Table 2**, it is not regulated by the EPA or MDEQ. However, Occupational Safety and Health Administration (OSHA) regulations (29 CFR 1926.1001) state that if asbestos-containing material containing 1% or less asbestos is to be removed by construction personnel, the employer shall provide awareness training, a written respirator protection program, respirators, and a negative exposure assessment would apply for any disturbance activities associated with this material. Accordingly, Tetra Tech recommends that individuals engaging in the disturbance or removal of this material utilize asbestos safe work practices as specified within 29 CFR 1926.1101. As stipulated under 29 CFR 1926.1101, work practice requirements and prohibitions that must be observed regardless of the exposure levels and the percentage of asbestos in the installed construction materials include, but are not necessarily limited to:

- 29 CFR 1926.1101(g)(1)(ii), which requires: wet methods, or wetting agents, to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup, except where employers demonstrate that the use of wet methods is infeasible due to, for example, the creation of electrical hazards, equipment malfunction, and, in roofing, except as provided in paragraph (g)(8)(ii) of this section.
- 29 CFR 1926.1101(g)(1)(iii), which requires: prompt clean-up and disposal of wastes and debris contaminated with asbestos in leak-tight containers except in roofing operations, where the procedures specified in paragraph (g)(8)(ii)3 of this section apply.
- 29 CFR 1926.1101(g)(3)(i), which prohibits: high-speed abrasive disc saws that are not equipped with a point-of-cut ventilator or enclosures with HEPA-filtered exhaust air.
- 29 CFR 1926.1101(g)(3)(ii), which prohibits compressed air used to remove asbestos or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
- 29 CFR 1926.1101(g)(3)(iv), which prohibits employee rotation as a means of reducing employee exposure to asbestos.

The following suspect ACMs sampled from the site were found not to contain asbestos by laboratory analysis:

- 12-inch by 12-inch white and gray mottle pattern vinyl floor tile and associated tan and black mastics with white leveling compound located in Room 27 (ML-F3.1A, B, C)
- 12-inch by 12-inch gray and white mottle pattern vinyl floor tile and associated tan mastic located in Room 54 (ML-F3.4A, B, C)
- White painted white wallboard system located on walls and ceiling throughout the building (ML-M3.1A, B, C)
- 2-foot by 4-foot white suspended ceiling panels with pinhole and fissure pattern located in Room 54 (ML-M5.1A, B, C)
- Gray sink undercoating located in Room 54 (ML-M10.1A, B, C)
- 4-inch black vinyl cove base and associated tan mastic located in Rooms 27 and 28 (ML-M12.1A, B, C)
- 6-inch black vinyl cove base and associated tan mastic located in Rooms 51 and 54 (ML-M12.2A, B, C)
- 4-inch by 6-inch red brick and associated gray mortar located on exterior walls throughout the building (ML-M13.1A, B, C)
- Gray concrete associated with foundation throughout the building (ML-M18.1A, B, C)
- Gray concrete associated with slab throughout the building (ML-M18.2A, B, C)
- White painted CMU block and associated gray mortar located in Room 105 (ML-M22.1A, B, C)
- Black tar expansion joint located in Room 105 (ML0M34.1A, B, C)
- White painted gray skim coat and associated gray plaster located on the walls in Room 27 (ML-S8.1A, B, C)

## LIMITATIONS

The purpose of the asbestos inspection is to reasonably test for evidence of asbestos in suspect ACM building materials. It should be noted that no inspection can be comprehensive or exhaustive enough to eliminate the possibility that asbestos present at the site may not be detected during the inspection. Therefore, the completion of this or any inspection for asbestos should not be considered a warranty or guarantee that these materials do not exist, even if they are not detected through an inspection.

Our opinions are intended exclusively for Montana State University. The services provided by Tetra Tech may not meet the needs of other users, and any use or reuse of this document or its findings is prohibited and at the user's own risk. No changes or modifications are allowed without Tetra Tech's written approval. Additionally, the opinions given are limited by the scope of services requested and the site conditions observed during our inspection. Therefore, our opinions and recommendations may not apply to future site conditions that we have not had the opportunity to assess.

It has been a pleasure assisting you with this project. If you have any questions or need additional information, please contact me at our Tetra Tech Billings, Montana office at (406) 248-9161.

Respectfully submitted,

**TETRA TECH**

Roger W. Herman, Jr.

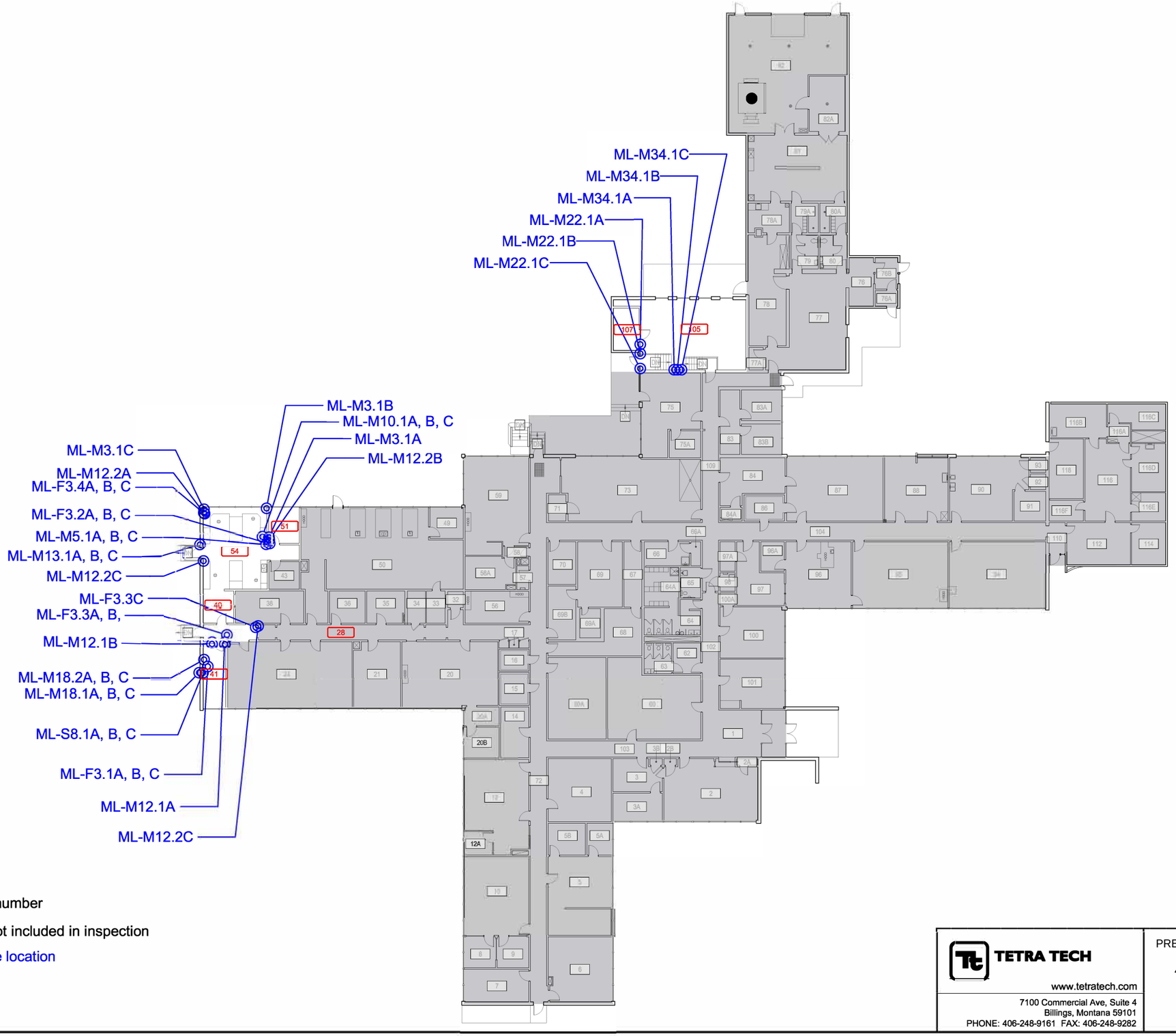
Roger W. Herman, Jr.
Asbestos, Lead & IH Services Manager

Figures
Attachment A – MDEQ Asbestos Inspector Accreditation
Attachment B – Bulk Asbestos Laboratory Analytical Report and COC

*I:\H-M\Montana State University\117-001068-26004 - Marsh HVAC Upgrade ASB\05-Deliverables\Final\MSU_Marsh Labs_HVAC Installation Project_Pre-Renovation ACM Report.docx*

# FIGURES

12/22/2025 2:36 PM - I:\H-MM\MONTANA STATE UNIVERSITY\117-001068-26004 - MARSH HVAC UPGRADE ASB\05-DELIVERABLES\FINAL\FIGURES\MSU MARSH LABS ACM COMBINED FIGURES.DWG




Legend

101 Room number

Area not included in inspection

Sample location

N

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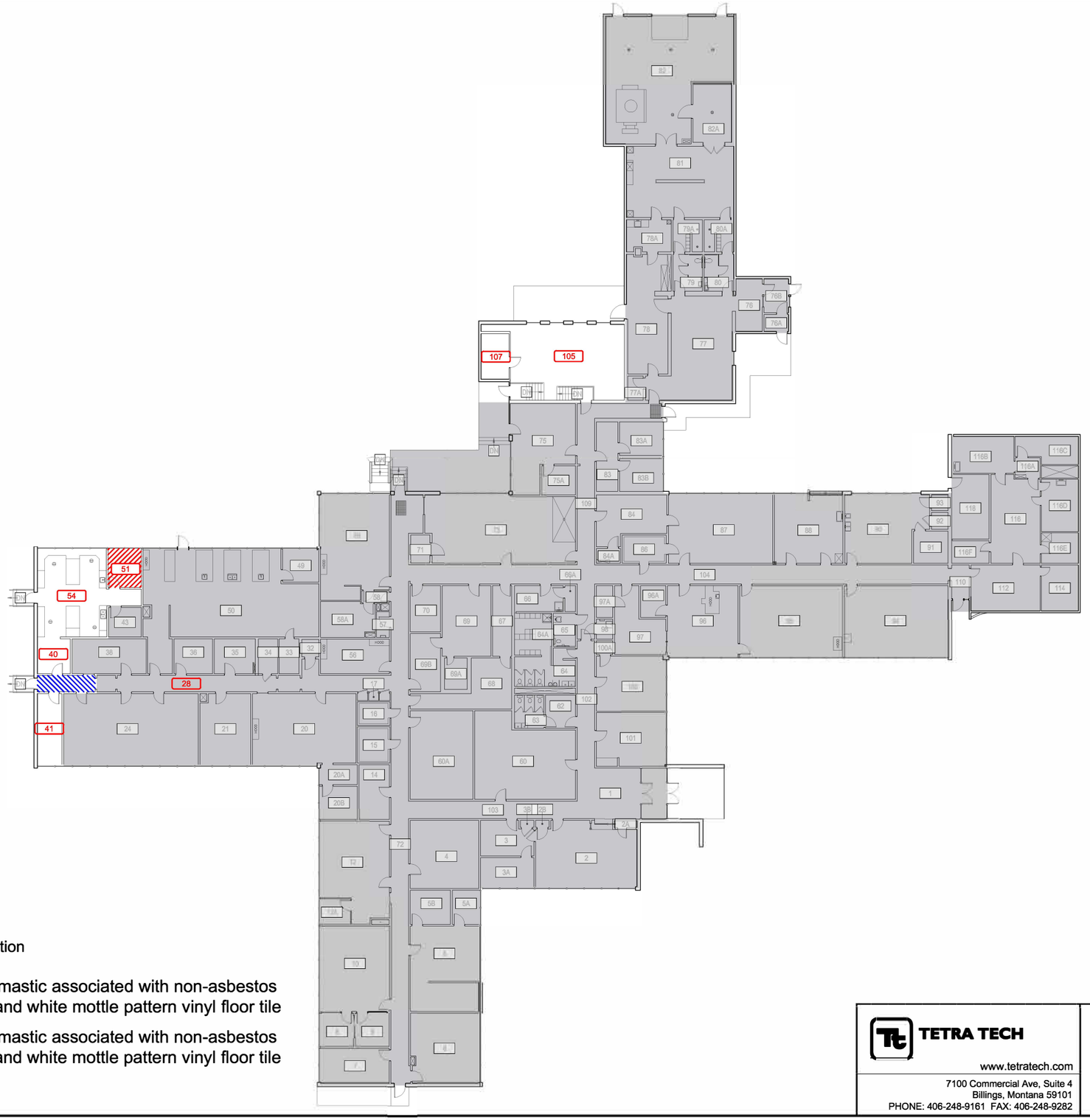
PRE-RENOVATION ASBESTOS INSPECTION
SAMPLE COLLECTION LOCATIONS
40, 41, 54 HVAC UPGRADE PROJECT
FIRST FLOOR
MARSH LABORATORY
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA

| | |
|---|---|
| Project No.: | 117-001068-26004 |
| Designed By: | |
| Drawn By: | GAB |
| Checked By: | RWH |

F-01

Copyright Tetra Tech

Not To Scale




Legend

| | |
|---|---|
| 101 | Room number |
| | Area not included in inspection |
| | ML-F3.2: Tan and black mastic associated with non-asbestos 12-inch by 12-inch gray and white mottle pattern vinyl floor tile |
| | ML-F3.3: Tan and black mastic associated with non-asbestos 12-inch by 12-inch gray and white mottle pattern vinyl floor tile |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PRE-RENOVATION ASBESTOS INSPECTION
ACM LOCATIONS
40, 41, 54 HVAC UPGRADE PROJECT
FIRST FLOOR
MARSH LABORATORY
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA

| | |
|---|---|
| Project No.: | 117-001068-26004 |
| Designed By: | GAB |
| Checked By: | RWH |

F-02

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# ATTACHMENT A
# MDEQ Asbestos Inspector Accreditation

**CHANC LAWRENCE**

has met the requirements of Montana Administrative Rule 17.74.362 and/or 17.74.363 for accreditation in the following asbestos occupation(s) through the specified expiration date(s).

**MTA-6668**

| | |
|---|---|
| Asbestos Inspector | 07/30/2026 |
| Project Contractor/Supervisor | 07/25/2026 |

MT DEQ Asbestos Control Program

CHANC LAWRENCE
3052 GOLDEN ACRES DR
BILLINGS MT 59106

# ATTACHMENT B
# Bulk Asbestos Laboratory Analytical Report and COC

**CA Labs**
**Dedicated to Quality**

***Crisp Analytical, L.L.C.***
*1929 Old Denton Road*
*Carrollton, TX 75006*
*Phone 972-242-2754*
*Fax 972-242-2798*

***CA Labs, L.L.C.***
*12232 Industriplex, Suite 32*
*Baton Rouge, LA 70809*
*Phone 225-751-5632*
*Fax 225-751-5634*

# *Materials Characterization - Bulk Asbestos Analysis*

**Laboratory Analysis Report - Polarized Light**

***Tetra Tech, Inc.***
7100 Commercial Ave Suite 4
Billings, Montana 59101

Customer Project: 117- Marsh Labs
Reference #: CAL25107899AG Date: 10/28/25

## Analysis and Method

Summary of polarized light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of a stereomicroscope. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

## Discussion

Vermiculite containing samples may contain trace amounts of actinolite/tremolite. When not detected by PLM, these samples should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may contain a regulated asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Since allowable variation in quantification of samples close to 1% is high, <1% may be reported. Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos or "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

## Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have completed college courses or hold a degree in a natural science (geology, biology, or environmental science). Recognition by a state professional board in one these disciplines is preferred, but not required. Extensive in-house training programs are used to augment the educational background of the analyst. The Laboratory Director and Quality Manager have received supplemental McCrone Research training for asbestos identification. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*
***AIHA LAP, LLC Laboratory #102929***

**CA Labs**
**Dedicated to Quality**

***Crisp Analytical, L.L.C.***
*1929 Old Denton Road*
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*Phone 972-242-2754*
*Fax 972-242-2798*

***CA Labs, L.L.C.***
*12232 Industriplex, Suite 32*
*Baton Rouge, LA 70809*
*Phone 225-751-5632*
*Fax 225-751-5634*

# *Overview of Project Sample Material Containing Asbestos*

**Customer Project:** 117- Marsh Labs **CA Labs Project #:** CAL25107899AG

| Laboratory Sample ID | Sample # | Layer # | Analysts Physical Description of Subsample | Asbestos type / calibrated visual estimate percent | List of Affected Building Material Types |
|---|---|---|---|---|---|
| 94237 | ML F3.2A | *F3.2A-2* | *tan and black mastic* | ***<1% Chrysotile*** | ***tan and black mastic black mastic*** |
| 94238 | ML F3.2B | *F3.2B-2* | *tan and black mastic* | ***<1% Chrysotile*** | |
| 94239 | ML F3.2C | *F3.2C-2* | *tan and black mastic* | ***<1% Chrysotile*** | |
| 94240 | ML F3.3A | *F3.3A-2* | *tan and black mastic* | ***<1% Chrysotile*** | |
| 94241 | ML F3.3B | *F3.3B-2* | *tan and black mastic* | ***<1% Chrysotile*** | |
| 94242 | ML F3.3C | *F3.3C-2* | *black mastic* | ***2% Chrysotile*** | |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*
***AIHA LAP, LLC Laboratory #102929***

***Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):***

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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**CA Labs**
**Dedicated to Quality**

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*Fax 225-751-5634*

# *Polarized Light Asbestiform Materials Characterization*

**Customer Info**: **Attn:** **Customer Project:** **CA Labs Project #:**

***Tetra Tech, Inc.***
7100 Commercial Ave Suite 4
Billings, Montana 59101

117- Marsh Labs
**Turnaround Time:** 5 days

CAL25107899AG

**Date:** 10/28/2025
**Samples Rec'd:** 10/22/25 11:00AM
**Date Of Sampling:** 10/20/2025
**Purchase Order #:**

Phone # 406-248-9161
Fax # 406-248-9282

| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94234 | ML F3.1A | | *F3.1A-1* | ***12x12 Vinyl Floor Tiles, Mastic, Leveling Compound/*** *white floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94234 | | ***5*** | *F3.1A-2* | *tan mastic* | | | | |
| 94234 | | | *F3.1A-3* | *white leveling compound* | *y* | ***None Detected*** | | 100% qu,bi,ca |
| 94234 | | | *F3.1A-4* | *gray mortar* | *y* | ***None Detected*** | | 100% qu,ca |
| 94235 | ML F3.1B | | *F3.1B-1* | ***12x12 Vinyl Floor Tiles, Mastic, Leveling Compound/*** *white floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94235 | | | *F3.1B-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94235 | | | *F3.1B-3* | *white leveling compound* | *y* | ***None Detected*** | | 100% qu,bi,ca |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

| | | | |
|---|---|---|---|
| ca - carbonate | mi - mica | fg - fiberglass | ce - cellulose |
| gy - gypsum | ve - vermiculite | mw - mineral wool | br - brucite |
| bi - binder | ot - other | wo - wollastonite | ka - kaolin (clay) |
| or - organic | pe - perlite | ta - talc | pa - palygorskite (clay) |
| ma - matrix | qu - quartz | sy - synthetic | |

Approved Signatories:

Justin Cox
Analyst

Technical Manager
Tanner Rasmussen

Senior Analyst
Julio Robles

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

**CA Labs**
**Dedicated to Quality**

***Crisp Analytical, L.L.C.***
*1929 Old Denton Road*
*Carrollton, TX 75006*
*Phone 972-242-2754*
*Fax 972-242-2798*

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*Fax 225-751-5634*

# *Polarized Light Asbestiform Materials Characterization*

**Customer Info**:
***Tetra Tech, Inc.***
7100 Commercial Ave Suite 4
Billings, Montana 59101

Phone # 406-248-9161
Fax # 406-248-9282

**Attn:**

**Customer Project:**
117- Marsh Labs
**Turnaround Time:**
5 days

**CA Labs Project #:**
CAL25107899AG

**Date:** 10/28/2025
**Samples Rec'd:** 10/22/25 11:00AM
**Date Of Sampling:** 10/20/2025
**Purchase Order #:**

| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94235 | | | *F3.1B-4* | *gray mortar* | *y* | ***None Detected*** | | 100% qu,ca |
| 94236 | ML F3.1C | | *F3.1C-1* | ***12x12 Vinyl Floor Tiles, Mastic, Leveling Compound/*** *white floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94236 | | | *F3.1C-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94236 | | | *F3.1C-3* | *white leveling compound* | *y* | ***None Detected*** | | 100% qu,bi,ca |
| 94236 | | | *F3.1C-4* | *gray mortar* | *y* | ***None Detected*** | | 100% qu,ca |
| 94237 | ML F3.2A | | *F3.2A-1* | ***12x12 Vinyl Floor Tiles, Mastic/*** *gray floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94237 | | | *F3.2A-2* | *tan and black mastic* | *n* | ***<1% Chrysotile*** | | 100% gy,bi |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

| | | | |
|---|---|---|---|
| ca - carbonate | mi - mica | fg - fiberglass | ce - cellulose |
| gy - gypsum | ve - vermiculite | mw - mineral wool | br - brucite |
| bi - binder | ot - other | wo - wollastonite | ka - kaolin (clay) |
| or - organic | pe - perlite | ta - talc | pa - palygorskite (clay) |
| ma - matrix | qu - quartz | sy - synthetic | |

Approved Signatories:

Justin Cox
Analyst

Technical Manager
Tanner Rasmussen

Senior Analyst
Julio Robles

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

**CA Labs**
**Dedicated to Quality**

***Crisp Analytical, L.L.C.***
*1929 Old Denton Road*
*Carrollton, TX 75006*
*Phone 972-242-2754*
*Fax 972-242-2798*

***CA Labs, L.L.C.***
*12232 Industriplex, Suite 32*
*Baton Rouge, LA 70809*
*Phone 225-751-5632*
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# *Polarized Light Asbestiform Materials Characterization*

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**Date:** 10/28/2025
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| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94238 | ML F3.2B | | *F3.2B-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ gray floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94238 | | | *F3.2B-2* | *tan and black mastic* | *n* | ***<1% Chrysotile*** | | 100% gy,bi |
| 94239 | ML F3.2C | | *F3.2C-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ gray floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94239 | | | *F3.2C-2* | *tan and black mastic* | *n* | ***<1% Chrysotile*** | | 100% gy,bi |
| 94240 | ML F3.3A | | *F3.3A-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ gray floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94240 | | | *F3.3A-2* | *tan and black mastic* | *n* | ***<1% Chrysotile*** | | 100% gy,bi |
| 94241 | ML F3.3B | | *F3.3B-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ white floor tile* | *y* | ***None Detected*** | | 100% qu,ca |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

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| or - organic | pe - perlite | ta - talc | pa - palygorskite (clay) |
| ma - matrix | qu - quartz | sy - synthetic | |

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Julio Robles

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|---|---|---|---|---|---|---|---|---|
| 94241 | | | *F3.3B-2* | *tan and black mastic* | *n* | ***<1% Chrysotile*** | | 100% gy,bi |
| 94242 | ML F3.3C | | *F3.3C-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ white floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94242 | | | *F3.3C-2* | *black mastic* | *y* | ***2% Chrysotile*** | | 98% gy,bi |
| 94243 | ML F3.4A | | *F3.4A-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ gray floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94243 | | | *F3.4A-2* | *gray mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94244 | ML F3.4B | | *F3.4B-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ gray floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94244 | | | *F3.4B-2* | *gray mastic* | *y* | ***None Detected*** | | 100% gy,bi |

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| bi - binder | ot - other | wo - wollastonite | ka - kaolin (clay) |
| or - organic | pe - perlite | ta - talc | pa - palygorskite (clay) |
| ma - matrix | qu - quartz | sy - synthetic | |

Approved Signatories:

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Technical Manager
Tanner Rasmussen

Senior Analyst
Julio Robles

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**Date Of Sampling:** 10/20/2025
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| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94245 | ML F3.4C | | *F3.4C-1* | ***12x12 Vinyl Floor Tiles, Mastic**/ gray floor tile* | *y* | ***None Detected*** | | 100% qu,ca |
| 94245 | | | *F3.4C-2* | *gray mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94246 | ML M3.1A | | *M3.1A-1* | ***Painted Smooth Wallboard System and Ceiling**/ white surfaced white compound* | *n* | ***None Detected*** | | 100% mi,qu,bi,ca |
| 94246 | | | *M3.1A-2* | *white compound (beneath tape)* | *y* | ***None Detected*** | | 100% mi,qu,ca |
| 94246 | | | *M3.1A-3* | *gray plaster* | *y* | ***None Detected*** | | 100% qu,ca |
| 94247 | ML M3.1B | | *M3.1B-1* | ***Painted Smooth Wallboard System and Ceiling**/ white surfaced white compound* | *n* | ***None Detected*** | | 100% mi,qu,bi,ca |
| 94247 | | | *M3.1B-2* | *white compound (beneath tape)* | *y* | ***None Detected*** | | 100% mi,qu,ca |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

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Approved Signatories:

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Analyst

Technical Manager
Tanner Rasmussen

Senior Analyst
Julio Robles

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| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94247 | | | *M3.1B - 3* | *white drywall with brown paper* | *n* | ***None Detected*** | 21% ce | 79% qu,gy |
| 94248 | ML M3.1C | | *M3.1C-1* | ***Painted Smooth Wallboard System and Ceiling**/ white surfaced white compound* | *n* | ***None Detected*** | | 100% mi,qu,bi,ca |
| 94248 | | | *M3.1C-2* | *white compound (beneath tape)* | *y* | ***None Detected*** | | 100% mi,qu,ca |
| 94248 | | | *M3.1C-3* | *tan drywall with brown paper* | *n* | ***None Detected*** | 20% ce | 80% qu,gy |
| 94249 | ML M5.1A | | *M5.1A-1* | ***2x4 Suspended Ceiling Panels**/ white surfacing* | *y* | ***None Detected*** | | 100% qu,bi |
| 94249 | | | *M5.1A-2* | *tan ceiling tile* | *y* | ***None Detected*** | 35% ce<br>30% fg | 35% qu,ca |
| 94250 | ML M5.1B | | *M5.1B-1* | ***2x4 Suspended Ceiling Panels**/ white surfacing* | *y* | ***None Detected*** | | 100% qu,bi |

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Approved Signatories:

Justin Cox
Analyst

Technical Manager
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# *Polarized Light Asbestiform Materials Characterization*

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| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94250 | | | *M5.1B-2* | *tan ceiling tile* | *y* | ***None Detected*** | 35% ce<br>30% fg | 35% qu,ca |
| 94251 | ML M5.1C | | *M5.1C-1* | ***2x4 Suspended Ceiling Panels**/ white surfacing* | *y* | ***None Detected*** | | 100% qu,bi |
| 94251 | | | *M5.1C-2* | *tan ceiling tile* | *y* | ***None Detected*** | 35% ce<br>35% fg | 30% qu,ca |
| 94252 | ML M10.1A | | *M10.1A-1* | ***Sink Undercoating**/ gray sealant* | *y* | ***None Detected*** | 2% ce | 98% qu,gy,bi |
| 94253 | ML M10.1B | | *M10.1B-1* | ***Sink Undercoating**/ gray sealant* | *y* | ***None Detected*** | | 100% qu,gy,bi |
| 94254 | ML M10.1C | | *M10.1C-1* | ***Sink Undercoating**/ gray sealant* | *y* | ***None Detected*** | 2% ce | 98% qu,gy,bi |
| 94255 | ML M12.1A | | *M12.1A-1* | ***4" Vinyl Covebase and Mastic**/ black baseboard* | *y* | ***None Detected*** | | 100% gy,ma |

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|---|---|---|---|---|---|---|---|---|
| 94255 | | | *M12.1 A-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94256 | ML M12.1B | | *M12.1 B-1* | ***4" Vinyl Covebase and Mastic**/ black baseboard* | *y* | ***None Detected*** | | 100% gy,ma |
| 94256 | | | *M12.1 B-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94257 | ML M12.1C | | *M12.1 C-1* | ***4" Vinyl Covebase and Mastic**/ black baseboard* | *y* | ***None Detected*** | | 100% gy,ma |
| 94257 | | | *M12.1 C-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94258 | ML M12.2A | | *M12.2 A-1* | ***6" Vinyl Covebase and Mastic**/ black baseboard* | *y* | ***None Detected*** | | 100% gy,ma |
| 94258 | | | *M12.2 A-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |

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# *Polarized Light Asbestiform Materials Characterization*

**Customer Info**:
***Tetra Tech, Inc.***
7100 Commercial Ave Suite 4
Billings, Montana 59101

Phone # 406-248-9161
Fax # 406-248-9282

**Attn:**

**Customer Project:**
117- Marsh Labs
**Turnaround Time:**
5 days

**CA Labs Project #:**
CAL25107899AG

**Date:** 10/28/2025
**Samples Rec'd:** 10/22/25 11:00AM
**Date Of Sampling:** 10/20/2025
**Purchase Order #:**

| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94259 | ML M12.2B | | *M12.2 B-1* | ***6" Vinyl Covebase and Mastic**/ black baseboard* | *y* | ***None Detected*** | | 100% gy,ma |
| 94259 | | | *M12.2 B-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94260 | ML M12.2C | | *M12.2 C-1* | ***6" Vinyl Covebase and Mastic**/ black baseboard* | *y* | ***None Detected*** | | 100% gy,ma |
| 94260 | | | *M12.2 C-2* | *tan mastic* | *y* | ***None Detected*** | | 100% gy,bi |
| 94261 | ML M13.1A | | *M13.1 A-1* | ***Brick with Mortar**/ red bricking* | *y* | ***None Detected*** | | 100% qu,ot |
| 94262 | ML M13.1B | | *M13.1 B-1* | ***Brick with Mortar**/ red bricking* | *y* | ***None Detected*** | | 100% qu,ot |
| 94263 | ML M13.1C | | *M13.1 C-1* | ***Brick with Mortar**/ red bricking* | *y* | ***None Detected*** | | 100% qu,ot |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

| | | | |
|---|---|---|---|
| ca - carbonate | mi - mica | fg - fiberglass | ce - cellulose |
| gy - gypsum | ve - vermiculite | mw - mineral wool | br - brucite |
| bi - binder | ot - other | wo - wollastonite | ka - kaolin (clay) |
| or - organic | pe - perlite | ta - talc | pa - palygorskite (clay) |
| ma - matrix | qu - quartz | sy - synthetic | |

Approved Signatories:

Justin Cox
Analyst

Technical Manager
Tanner Rasmussen

Senior Analyst
Julio Robles

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

**CA Labs**
**Dedicated to Quality**

***Crisp Analytical, L.L.C.***
*1929 Old Denton Road*
*Carrollton, TX 75006*
*Phone 972-242-2754*
*Fax 972-242-2798*

***CA Labs, L.L.C.***
*12232 Industriplex, Suite 32*
*Baton Rouge, LA 70809*
*Phone 225-751-5632*
*Fax 225-751-5634*

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**Date Of Sampling:** 10/20/2025
**Purchase Order #:**

| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94264 | ML M18.1A | | *M18.1 A-1* | ***Concrete Foundation**/ gray concrete* | *y* | ***None Detected*** | | 100% qu,ca |
| 94265 | ML M18.1B | | *M18.1 B-1* | ***Concrete Foundation**/ gray concrete* | *y* | ***None Detected*** | | 100% qu,ca |
| 94266 | ML M18.1C | | *M18.1 C-1* | ***Concrete Foundation**/ gray concrete* | *y* | ***None Detected*** | | 100% qu,ca |
| 94267 | ML M18.2A | | *M18.2 A-1* | ***Concrete Slab**/ gray concrete* | *y* | ***None Detected*** | | 100% qu,ca |
| 94268 | ML M18.2B | | *M18.2 B-1* | ***Concrete Slab**/ gray concrete* | *y* | ***None Detected*** | | 100% qu,ca |
| 94269 | ML M18.2C | | *M18.2 C-1* | ***Concrete Slab**/ gray concrete* | *y* | ***None Detected*** | | 100% qu,ca |
| 94270 | ML S8.1A | | *S8.1A-1* | ***Painted Skim Coat and Plaster**/ white surfaced white finishing compound* | *n* | ***None Detected*** | | 100% qu,bi,ca |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
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| bi - binder | ot - other | wo - wollastonite | ka - kaolin (clay) |
| or - organic | pe - perlite | ta - talc | pa - palygorskite (clay) |
| ma - matrix | qu - quartz | sy - synthetic | |

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Tanner Rasmussen

Senior Analyst
Julio Robles

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**CA Labs Project #:**
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**Date:** 10/28/2025
**Samples Rec'd:** 10/22/25 11:00AM
**Date Of Sampling:** 10/20/2025
**Purchase Order #:**

| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 94270 | | | *S8.1A-2* | *gray plaster* | *y* | ***None Detected*** | | 100% qu,ca |
| 94271 | ML S8.1B | | *S8.1B-1* | ***Painted Skim Coat and Plaster**/ white surfaced white finishing compound* | *n* | ***None Detected*** | | 100% qu,bi,ca |
| 94271 | | | *S8.1B-2* | *gray plaster* | *y* | ***None Detected*** | | 100% qu,ca |
| 94272 | ML S8.1C | | *S8.1C-1* | ***Painted Skim Coat and Plaster**/ white surfaced white finishing compound* | *n* | ***None Detected*** | | 100% qu,bi,ca |
| 94272 | | | *S8.1C-2* | *gray plaster* | *y* | ***None Detected*** | | 100% qu,ca |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
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| ma - matrix | qu - quartz | sy - synthetic | |

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Senior Analyst
Julio Robles

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# *Polarized Light Asbestiform Materials Point Count*

**Laboratory Analysis Report - Point Count**

## Analysis and Method

Point counting was performed on a polarized light microscope with a calibrated reticle according to the revised NESHAP method of November 20, 1990 (Federal Register, V.55, N.224, 11/20/90). Origional asbestos content of bulk materials was determined using procedures outlined in the interim method (40 CFR part 763, Appendix E to subpart E) and AHERA method (EPA-600/R-93/116). Samples were prepared using HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion staining / becke line method.

## Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have completed college courses in a natural science (geology, biology, or environmental science). Recognition by a state professional board in one of these disciplines is preferred, but not required. Extensive in-house training programs are used to augment education background of the analyst. The Laboratory Director and Quality Manager have received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of NVLAP accreditation. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

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7100 Commercial Ave Suite 4
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Fax # 406-248-9282

**Attn:**

**Customer Project:**
117- Marsh Labs
**Turnaround Time:**
5 days

**CA Labs Project #:**
CAL25107899AG

**Date:** 10/28/25
**Samples Rec'd:** 10/22/25 11:00AM
**Date Of Sampling:** 10/20/25
**Purchase Order #:**

| Laboratory Sample ID | Sample # | *Layer #* | Analysts Physical Description of Subsample | Homo-geneous (Y/N) | Point Counted % / Asbestos Type |
|---|---|---|---|---|---|
| 94237 | ML F3.2A | *F3.2A-2* | *tan and black mastic* | *n* | ***0.50% Chrysotile*** |
| 94238 | ML F3.2B | *F3.2B-2* | *tan and black mastic* | *n* | ***0.75% Chrysotile*** |
| 94239 | ML F3.2C | *F3.2C-2* | *tan and black mastic* | *n* | ***0.50% Chrysotile*** |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

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Approved Signatories:

Justin Cox
Analyst

Technical Manager
Tanner Rasmussen

Senior Analyst
Julio Robles

**CA Labs**
**Dedicated to Quality**

***Crisp Analytical, L.L.C.***
*1929 Old Denton Road*
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# *Polarized Light Asbestiform Materials Point Count*

**Laboratory Analysis Report - Point Count**

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7100 Commercial Ave Suite 4
Billings, Montana 59101

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**Attn:**

**Customer Project:**
117- Marsh Labs
**Turnaround Time:**
5 days

**CA Labs Project #:**
CAL25107899AG

**Date:** 10/28/25
**Samples Rec'd:** 10/22/25 11:00AM
**Date Of Sampling:** 10/20/25
**Purchase Order #:**

| Laboratory Sample ID | Sample # | *Layer #* | Analysts Physical Description of Subsample | Homo-geneous (Y/N) | Point Counted % / Asbestos Type |
|---|---|---|---|---|---|
| 94240 | ML F3.3A | *F3.3A-2* | *tan and black mastic* | *n* | ***0.75% Chrysotile*** |
| 94241 | ML F3.3B | *F3.3B-2* | *tan and black mastic* | *n* | ***0.75% Chrysotile*** |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

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Julio Robles

TETRA TECH

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Billings, Montana 59101
Phone: 406.248.9161 Fax 406.248.9282

GAL251078 99

## CONTACT INFORMATION

| | | | |
|---|---|---|---|
| **COMPANY:** | Tetra Tech, Inc. | **Phone:** | 406.248.9161 |
| **Primary Contact** | Chanc Lawrence | **Phone / Email:** | chanc.lawrence@tetratech.com cell-(406)601-0936 |
| **Additional Contact** | Roger W. Herman, Jr. | **Phone / Email:** | roger.herman@tetratech.com cell – 406.670.4844 |
| **Sampler Name(s)** | Chanc Lawrence | **Sampler Signature(s** | |
| **Date of Inspection:** | 10-20-25 | | |

## PROJECT INFORMATION

| | | | |
|---|---|---|---|
| **Client** | MSU | **Project Name** | Marsh Labs |
| **Project Location** | Montana State University Marsh Labs | **Project Number** | 117- |

## PLM INSTRUCTIONS

☑ PLM EPA 600/R-93/116 ☐ PLM CARB 435 (rock/soil) ☐ TEM CHATFIELD ☐ TEM NOB 198.4 ☐ TEM CARB 435 (rock/soil)

☑ PLM Point Count, PC 400 Points (All samples greater than 0%, but less than 1%)

☑ Multi-Layered Samples:

☑ Analyze and Report All Separable Layers per EPA 600 ☐ Only Analyze sepecifically noted layer

☑ Analyze Until Positive Stop by Material Type as Noted

## TURNAROUND TIME

☑ 5 Day ☐ 72 Hour ☐ 48 Hour ☐ 24 Hour ☐ 8 Hour ☐ 4 Hour ☐ 2 Hour

| Relinquished By | Date & Time | VIA | Received By | Date & Time |
|---|---|---|---|---|
| Chanc Lawrence | 10-21-25 8:00 | FEDEX | Andrew Sikes | 11:00AM 10-22-25 |
| | | | | |

TETRA TECH
7100 Commercial Avenue Suite 4
Billings, Montana 59101
Phone: 406.248.9161 Fax 406.248.9282

CAC2510799

# CHAIN OF CUSTODY
# –BULK ASBESTOS–

**PROJECT INFORMATION**

**Project Name** Marsh Labs

**Project Identifier** ML

**Project Number** 117-

| Bulk Sample # | HA ID | Sample Material Description | Material Location | Notes |
|---|---|---|---|---|
| A<br>B<br>C | ML F 3.1 | 12-inch by 12-inch white and gray mottle patterend vinyl floor tiles and associated tan mastic with white leveling compound | Rooms 103 | |
| A<br>B<br>C | ML F 3.2 | 12-inch by 12-inch gray and white mottle patterned vinyl floor tile and associated tan and black mastic | Room 102 | |
| A<br>B<br>C | ML F 3.3 | 12-inch by 12-inch white and gray mottle patterend vinyl floor tiles and associated tan and black mastic | Room 104 | |
| A<br>B<br>C | ML F 3.4 | 12-inch by 12-inch gray and white mottle patterned vinyl floor tile and associated tan mastic | Room 101 | |
| A<br>B<br>C | ML M 3.1 | White painted smooth wallboard system walls and ceiling | Walls- 103, 104, 105 and 102<br>Ceiling- 103, 104, 105 and 102 | |
| A<br>B<br>C | ML M 5.1 | 2-foot by 4-foot white with pinholes and fissured suspended ceiling panels | Room 101 | |
| A<br>B<br>C | ML M 10.1 | Gray sink undercoating | Room 101 | Condensation line being added |
| A<br>B<br>C | ML M 12.1 | 4-inch black vinyl covebase and associated tan mastic | Rooms 103 and 104 | |
| A<br>B<br>C | ML M 12.2 | 6-inch black vinyl covebase with associated tan mastic | Rooms 101 and 102 | |
| A<br>B<br>C | ML M 13.1 | Red brick with associated red mortar | Exterior walls | |

Andrew Sikes
11:00Am 10-22-25

TETRA TECH
7100 Commercial Avenue Suite 4
Billings, Montana 59101
Phone: 406.248.9161 Fax 406.248.9282

GLZ5107899

# CHAIN OF CUSTODY
## –BULK ASBESTOS–

**PROJECT INFORMATION**

**Project Name** Marsh Labs **Project Number** 117-

**Project Identifier** ML

| Bulk Sample # | HA ID | Sample Material Description | Material Location | Notes |
|---|---|---|---|---|
| A<br>B<br>C | ML M 18.1 | Concrete foundation | Exterior and interior | Underneath in crawl space |
| A<br>B<br>C | ML M 18.2 | Concrete slab | Throughout | |
| A<br>B<br>C | ML S 8.1 | White painted white skim coat and associated gray plaster base coat wall | Room 103 | |

Andrew Sikes
11:00Am 10-22-25

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# *Materials Characterization - Bulk Asbestos Analysis*

**Laboratory Analysis Report - Polarized Light**

***Tetra Tech, Inc.***
7100 Commercial Ave Suite 4
Billings, Montana 59101

Customer Project: 117-001068-26004, Mechanical Room 1(
Reference #: CAL25129090AS Date: 12/15/25

## Analysis and Method

Summary of polarized light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of a stereomicroscope. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

## Discussion

Vermiculite containing samples may contain trace amounts of actinolite/tremolite. When not detected by PLM, these samples should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may contain a regulated asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Since allowable variation in quantification of samples close to 1% is high, <1% may be reported. Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos or "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

## Qualifications

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*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*
***AIHA LAP, LLC Laboratory #102929***

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# *Overview of Project Sample Material Containing Asbestos*

**Customer Project:** 117-001068-26004, Mechanical Room 105 Marsh La **CA Labs Project #:** CAL25129090AS

| Laboratory Sample ID | Sample # | Layer # | Analysts Physical Description of Subsample | Asbestos type / calibrated visual estimate percent | List of Affected Building Material Types |
|---|---|---|---|---|---|
| | | | | | |

***No Asbestos Detected.***

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*
***AIHA LAP, LLC Laboratory #102929***

***Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):***

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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7100 Commercial Ave Suite 4
Billings, Montana 59101

**Attn:**

Phone # 406-248-9161
Fax # 406-248-9282

**Customer Project:**
117-001068-26004, Mechanical Room 105 Marsh Labs

**Turnaround Time:**
24 Hours

**CA Labs Project #:**
CAL25129090AS

**Date:** 12/15/2025
**Samples Rec'd:** 12/12/25 10:30AM
**Date Of Sampling:** 12/9/2025
**Purchase Order #:**

| Laboratory Sample ID | Sample # | Comment | Layer # | Analysts Physical Description of Subsample | Homogeneous (Y/N) | Asbestos type / calibrated visual estimate percent | Non-asbestos fiber type / percent | Non-fibrous type / percent |
|---|---|---|---|---|---|---|---|---|
| 108509 | ML-M22.1A | *M22.1* | *A-1* | ***CMU Block and Mortar**/ white surfaced gray cement/mortar* | *n* | ***None Detected*** | | 100% qu,bi,ca |
| 108510 | ML-M22.1B | *M22.1* | *B-1* | ***CMU Block and Mortar**/ white surfaced gray cement/mortar* | *n* | ***None Detected*** | | 100% qu,bi,ca |
| 108511 | ML-M22.1C | *M22.1* | *C-1* | ***CMU Block and Mortar**/ white surfaced gray cement/mortar* | *n* | ***None Detected*** | | 100% qu,bi,ca |
| 108512 | ML-M34.1A | *M34.1* | *A-1* | ***Tar Expansion Joint**/ black tar with gray gravel* | *n* | ***None Detected*** | | 100% qu,bi,ca |
| 108513 | ML-M34.1B | *M34.1* | *B-1* | ***Tar Expansion Joint**/ black tar with gray gravel* | *n* | ***None Detected*** | | 100% qu,bi,ca |
| 108514 | ML-M34.1C | *M34.1* | *C-1* | ***Tar Expansion Joint**/ black tar with gray gravel* | *n* | ***None Detected*** | | 100% qu,bi,ca |

*Dallas NVLAP Lab Code 200349-0 TEM/PLM TDSHS 30-0235*

***AIHA LAP, LLC Laboratory #102929***

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

| | | | |
|---|---|---|---|
| ca - carbonate | mi - mica | fg - fiberglass | ce - cellulose |
| gy - gypsum | ve - vermiculite | mw - mineral wool | br - brucite |
| bi - binder | ot - other | wo - wollastonite | ka - kaolin (clay) |
| or - organic | pe - perlite | ta - talc | pa - palygorskite (clay) |
| ma - matrix | qu - quartz | sy - synthetic | |

Approved Signatories:

Tomas Vazquez
Analyst

Technical Manager
Tanner Rasmussen

Senior Analyst
Julio Robles

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

TETRA TECH

7100 Commercial Avenue Suite 4
Billings, Montana 59101
Phone: 406.248.9161 Fax 406.248.9282

CAL25129090

## CONTACT INFORMATION

| | | | |
|---|---|---|---|
| **COMPANY:** | Tetra Tech, Inc. | **Phone:** | 406.248.9161 |
| **Primary Contact** | Chanc Lawrence | **Phone / Email:** | chanc.lawrence@tetratech.com cell-(406)601-0936 |
| **Additional Contact** | Roger W. Herman, Jr. | **Phone / Email:** | roger.herman@tetratech.com cell – 406.670.4844 |
| **Sampler Name(s)** | Chanc Lawrence | **Sampler Signature(s** | |
| **Date of Inspection:** | 12-09-25 | | |

## PROJECT INFORMATION

| | | | |
|---|---|---|---|
| **Client** | MONTANA STATE UNIVERSITY | **Project Name** | MECHANICAL ROOM 105 MARSH LABS |
| **Project Location** | BOZEMAN, MONTANA | **Project Number** | 117-001068-26004 |

## PLM INSTRUCTIONS

☑ PLM EPA 600/R-93/116 ☐ PLM CARB 435 (rock/soil) ☐ TEM CHATFIELD ☐ TEM NOB 198.4 ☐ TEM CARB 435 (rock/soil)

☑ PLM Point Count, PC 400 Points (All samples greater than 0%, but less than 1%)

☑ Multi-Layered Samples:

☑ Analyze and Report All Separable Layers per EPA 600 ☐ Only Analyze sepecifically noted layer

☑ Analyze Until Positive Stop by Material Type as Noted

## TURNAROUND TIME

☐ 5 Day ☐ 72 Hour ☐ 48 Hour ☑ 24 Hour ☐ 8 Hour ☐ 4 Hour ☐ 2 Hour

| Relinquished By | Date & Time | VIA | Received By | Date & Time |
|---|---|---|---|---|
| Chanc Lawrence | 9:00 12-11-25 | FEDEX | | |
| | | | 10:30AM | |

DEC 12 2025

Andrew Sikes

TETRA TECH

7100 Commercial Avenue Suite 4
Billings, Montana 59101
Phone: 406.248.9161 Fax 406.248.9282

CAL25129090

# CHAIN OF CUSTODY
## –BULK ASBESTOS–

**PROJECT INFORMATION**

**Project Name** MECHANICAL ROOM 105 MARSH LABS **Project Number** 117-001068-26004

**Project Identifier** ML

| Bulk Sample # | HA ID | Sample Material Description | Material Location | Notes |
|---|---|---|---|---|
| A<br>B<br>C | ML M 22.1 | White painted CMU block and associated gray mortar | Room 105 mechanical room | |
| A<br>B<br>C | ML M 34.1 | Black tar expansion joint | Room 105 mechanical room | |

10:30AM

DEC 12 2025

Andrew Sikes