

REQUEST FOR PROPOSALS

**ASBESTOS AND UNIVERSAL WASTE REMOVAL
FORMER MORSE HIGH SCHOOL
1941 AND 1968 ADDITIONS
BATH, MAINE**

Prepared for:

**CITY OF BATH
55 FRONT STREET
BATH MAINE**

Prepared by:

**RANSOM CONSULTING, LLC
400 COMMERCIAL STREET, SUITE 404
PORTLAND, MAINE 04101**

Ransom Project 222.06056.202

JUNE 2023
(For Bidding)

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1.0 PROJECT OBJECTIVE

The City of Bath, Maine (the “Owner”) will receive sealed bids for the Asbestos Abatement of the 1941 and 1968 Additions of the former Morse High School located at 826 High Street in Bath, Maine until 2:00 p.m. local time on June 30, 2023, at Bath City Hall, 55 Front Street, Bath, Maine 04530, at which time and place all bids will be publicly opened and read aloud. Bid security shall be submitted with each bid in the amount of five percent of the bid amount. Alternatively, bids may be sent via email to eruger@cityofbath.com with cc to stephen.dyer@ransomenv.com prior to the 2:00 pm opening. Owner will consider bids prepared in compliance with the instructions to Bidders; all components of the bid submission must be scanned and be legible; and hard/original copies of the bid documents must be provided to the City of Bath prior to contract signing. Proof of bid security shall be submitted with each bid in the amount of five percent of the bid amount.

No bids may be withdrawn for a period of 60 days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

The objective of this work is the abatement and proper disposal of asbestos containing materials (ACM) and miscellaneous universal waste items identified in the former Morse High School 1941 and 1968 additions at 826 High Street Bath, Maine. The materials requiring abatement are detailed in a Hazardous Building Materials Inventory prepared by Ransom Consulting, LLC (the “Engineer”). Please refer to the attached Figure 1 for the Site location and Figure 2 for current Site conditions.

The project must be complete by August 11, 2023.

The City of Bath is an Equal Opportunity/Affirmative Action Employer.

2.0 SCOPE OF WORK

The work in this Request for Proposals (RFP) includes the following tasks:

1. Removal and proper disposal of all identified Asbestos Contain Materials (ACM) from the buildings, in accordance with Maine Department of Environmental Protection (MEDEP) regulations prior to building demolitions;
2. Removal and proper disposal or recycling of all identified universal waste items from the buildings, in accordance with applicable waste handling regulations; and
3. Obtain all necessary permits to perform the work.

A complete listing of ACM and universal waste identified at the building is contained in the Hazardous Building Material Inventory prepared by Ransom and dated May 26, 2023, and the technical specification for the asbestos abatement are provided in Attachment A.

3.0 CONTROL OF WORK

The Contractor shall coordinate the sequence of work with the City of Bath and Engineer. The City of Bath must be notified of any abatement activities, road closures, or detours that would affect emergency response to the Site or any other properties.

3.1 Hours of Operation

The Contractor including all subcontractors, suppliers, and all others performing work on this project shall conform to the following work schedule.

No outdoor activity, including starting and/or idling of equipment and vehicles, on or adjacent to the site will be permitted before 7:00 a.m. or after 6:00 p.m. without advance notice to and permission from the City of Bath.

Contractor shall make a request to work outside these hours at least seven calendar days before work is to begin.

All outdoor activity shall be confined to Monday through Friday, except for emergency conditions, which shall be reviewed and approved by the City of Bath.

3.2 Protection

Care shall be taken to protect the public at all times, especially users of the remainder of the former Morse High School. Materials shall not be deposited or stored on the remainder of the former Morse High School or adjacent properties (without permission) or in areas accessible to the public.

Use all means necessary to prevent the spread of dust during the performance of the work of this section. Thoroughly wet all surfaces as required to prevent dust from spreading to the other sections of the remainder of the former Morse High School, adjacent properties, and public ways, as well as prevent dust from being a nuisance to the workers and neighbors.

The abatement work shall be carried on in a manner that will ensure the safety to users of the remainder of the former Morse High School, adjoining properties, and persons occupying such property against any damages or injuries which might occur from activities at the site, and so as not to interfere with the use of adjacent buildings and structures or the free and safe passage to and from the same.

Take adequate precautions to protect all walks, roads, streets, pavements, trees and planting, outside the property line, and repair and replace or otherwise make good, as directed by the City of Bath, any such or other damage so caused.

The Contractor shall install adequate barricades, barriers and fences to ensure the public safety during the abatement work.

3.3 Utilities

The City of Bath shall be responsible for supplying electricity. The Contractor shall be responsible for supplying water, and sanitary facilities, if necessary, during the completion of the abatement activities.

3.3.1 Discontinuance or Interruption

Before starting the work, the Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the continuance or interruption of all public and private utilities or services under the jurisdiction of the utility companies or corporation, police department, fire department, and public works department such as electricity, low tension system, telephone, police signal, fire alarm, and without limiting the generality of the foregoing, including any system under this contract.

3.3.2 Protection

Should any damage occur to a utility which is to remain, as a result, in the judgment of the City of Bath, of this operation, the Contractor shall repair all damage to any such utility to the satisfaction of the City of Bath, at no expense to the City of Bath.

3.4 Clean up and Restoration.

All debris resulting from the operation under this contract and all tools and apparatus are to be removed from the site at the completion of the work and Site left clear and free from hazards to the satisfaction of the City of Bath.

4.0 PAYMENT

Payment shall be made at the lump sum bid, which shall be full compensation for mobilization and demobilization of the necessary labor, equipment and other materials required for the abatement of the buildings/structures, including proper transport and disposal of all regulated materials at a licensed facility, clean up and site restoration and all other work, expense, incidental thereto for which payment is not provided under other items.

All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by the City of Bath.

4.1 Scope of Payment

Payments to the Contractor will be made for the actual quantities of the contract items performed and accepted in accordance with this RFP. Upon completion of the abatement activities, if these actual quantities shown either an increase or decrease from the quantities given in the Bid, the contract unit prices will still prevail, except as provided hereinafter.

The Contractor shall accept full payment in compensation, as herein provided, for furnishing all materials, labor, tools, equipment, and incidentals necessary for the successful completion of work embraced by this RFP.

No extra payment shall be made to the Contractor for any delays caused by lack of progress, defective workmanship, or rescheduling of work by other contractors, subcontractors, or equipment and material suppliers.

Additional costs caused by ill-timed or defective work or work not conforming to the RFP shall be paid for by the party causing the rejected or non-conforming work.

Work done on written instructions of the City of Bath, other than defective or non-conforming work, shall be paid for by the City of Bath.

4.2 Incidental Work

Incidental work items for which separate payment is not measured include, but are not limited to, the following items:

1. State and local permits;
2. Clearing, grubbing, and stripping;
3. Snow removal;
4. Signs;
5. Restoration/replacement of impacted/damaged walkways;
6. Utility coordination;

7. Transporting of salvaged materials to designated location;
8. Maintenance and safeguarding of utility poles;
9. Shoring, bracing, support and protection of utilities as required;
10. Maintenance, protection and reestablishment of property pins and survey markers disturbed by the Contractor;
11. Adjustment of frames and grates and frames and covers as required;
12. Protection of utilities;
13. Traffic control;
14. Temporary facilities including sanitary facilities; and
15. Coordination with Municipality, Utilities and others, including subcontractors, for the abatement activities as required.

5.0 INSURANCE/CONTRACT REQUIREMENTS

Contractor, at its own expense, shall maintain the following minimum insurance policies:

1. Workers' compensation insurance, occupational disease, employer's liability, disability benefit, and other similar employee benefit required by the State of Maine.
2. Commercial general liability insurance including Contractor's protective and contractual liability with a combined single limit of \$2,000,000 per occurrence and \$5,000,000 aggregate for bodily injury, including death, and property damage.
3. Business comprehensive automobile liability and insurance protection for motor vehicles used by Contractor either on or away from the site with a combined single limit of \$1,000,000 per occurrence for bodily injury, including death and property damage. The policy shall include coverage for all owned and hired motor vehicles.
4. Property insurance which provides coverage for all tools and equipment used in the work specified.
5. Contractor shall furnish City of Bath a certificate of insurance as evidence of the coverage.

6.0 SCHEDULE

The proposed project schedule is as follows:

Optional Bid Walk: June 22, 2023, 9:00 a.m.

All bids due: June 30, 2023, 2:00 p.m.

Notice of Award: July 7, 2023

Contract signing/Notice to Proceed/Mobilization: July 14, 2023

Final completion of work and fully demobilized: August 11, 2023



APPENDIX A

Bid Form

Request for Proposal
Asbestos and Universal Waste Removal
Former Morse High School 1941 and 1968 Additions
826 High Street
Bath, Maine

DOCUMENT - BID FORM

1.1 BID INFORMATION

- A. Bidder: _____.
- B. Project Name: **Asbestos and Universal Waste Removal, Former Morse High School, 1941 and 1968 Additions**
- C. Project Location: **826 High Street, Bath, Maine**
- D. Owner: **City of Bath, 55 Front Street, Bath, Maine**
- E. Engineer: **Ransom Consulting, LLC, 400 Commercial Street, Suite 404, Portland, Maine.**
- F. Engineer Project Number: **222.06056**

1.2 CERTIFICATIONS AND BID(S)

- A. The undersigned Bidder, having carefully examined the Project Drawings, Specifications, and all subsequent Addenda, as prepared by Ransom Consulting, LLC, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the work according to the requirements of the Procurement and Contracting Documents, for the stipulated lump sum of:
 - 1. _____ Dollars (\$_____).

1.3 TIME OF COMPLETION

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Project Documents on a date specified in a written Notice to Proceed to be issued by Engineer.
- B. The undersigned Bidder affirms they are able to meet the schedule outlined in Section 6 of the Request for Proposal. If Bidder CANNOT meet the Final Completion Dates outlined in RFP, please indicate proposed construction schedule below:
 - 1. Proposed Final Completion Date: _____

1.4 BID GUARANTEE

- A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within ten days after a written Notice of Award, if offered within 60 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the **total bid** amount above:

1. _____ Dollars (\$_____).

- B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

1.5 SUBCONTRACTORS AND SUPPLIERS

- A. The following companies shall execute subcontracts for the portions of the Work indicated:

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6. _____.

1.6 ACKNOWLEDGEMENT OF ADDENDA

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

1. Addendum No. 1, dated _____.
2. Addendum No. 2, dated _____.
3. Addendum No. 3, dated _____.

1.7 CONTRACTOR'S LICENSE

- A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in the State of Maine, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.8 SUBMISSION OF BID

- A. Respectfully submitted this ____ day of _____, 2023.
- B. Submitted By _____ (Name of bidding firm or corporation).
- C. Authorized Signature: _____ (Handwritten signature).

- D. Signed By: _____ (Type or print name).
- E. Title: _____.
- F. Witness By: _____ (Handwritten signature).
- G. By: _____ (Type or print name).
- H. Title: _____.
- I. Street Address: _____.
- J. City, State, Zip _____.
- K. Phone: _____.
- L. License No.: _____.
- M. Federal ID No.: _____ (Affix Corporate Seal Here).

END OF DOCUMENT

APPENDIX B

028211 - Asbestos Abatement Technical Specification

Request for Proposal
Asbestos and Universal Waste Removal
Former Morse High School 1941 and 1968 Additions
826 High Street
Bath, Maine

SECTION 028211 - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 SUMMARY OF THE WORK

- 1.1.1. This Section includes furnishing labor, materials, equipment, supplies, and performing all operations necessary to complete the removal of asbestos-containing materials (ACM) by competent persons trained, knowledgeable and qualified in the techniques of asbestos abatement, handling and disposal of ACM and asbestos contaminated materials and the subsequent cleaning of contaminated areas, and complying with all applicable federal, state, and local regulations in accordance with these specifications.
- 1.1.2 The work to be performed under this Contract consists of the removal, cleanup and disposal of all ACM and asbestos/waste contaminated elements identified in the 1941 and 1968 Additions of the former Morse High School; the CONTRACTOR is responsible for determining actual quantities of identified ACM to be removed.
- 1.1.3 The CONTRACTOR will be responsible for preparation of a site-specific asbestos abatement project design and work plan for each work area.
- 1.1.4 The CONTRACTOR will be responsible for the timely submission of all appropriate federal and state notifications and associated fees.
- 1.1.5 The CONTRACTOR will be responsible for providing an independent air monitor for all visual evaluations and air clearances.
- 1.1.6 The CONTRACTOR will be responsible for conducting personal monitoring on their employees during abatement activities.

1.2 REFERENCES

1.2.1. Code of Federal Regulations (CFR) Publications:

- 1. 29 CFR 1910.1001 - General Industry Standard for Asbestos
- 2. 29 CFR 1926.1101 - Construction Standard for Asbestos
- 3. 29 CFR 1910.134 - General Industry Standard for Respiratory Protection
- 4. 29 CFR 1910.120 - Hazard Communication
- 5. 40 CFR 61 Federal Register Vol. 49, April 5, 1984 Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAPS) – Asbestos

1.2.2. Applicable State Regulations:

1. 06-096 State of Maine, Department of Environmental Protection, Chapter 425, Asbestos Management Regulations (effective date: April 3, 2011).
2. CMR 411 State of Maine, Non-Hazardous Waste Transporter Licensing Regulations.
3. CMR 405 State of Maine, Solid Waste Management Regulations.

1.3 SUBMITTALS

1.3.1. CONTRACTOR Submittals

Submittals will be received by the ENGINEER in accordance with this section before material or equipment is purchased or work is performed. The CONTRACTOR will submit to the ENGINEER, for review, two copies of the information required herein. The adequacy and accuracy of submittals and their compliance with contract documents are the responsibility of the CONTRACTOR. All reviewing actions taken by the OWNER will in no way relieve the CONTRACTOR of his/her quality control requirements.

1.3.2. General

The CONTRACTOR will submit:

1. A list of proposed subcontractors with their addresses, specialties, and qualifications with their bid.
2. Certificate of Insurance indicating coverage for asbestos abatement work.

1.3.3. Work Practices and Procedures

1. Design and Work Plan: The CONTRACTOR will be responsible for preparation of a site-specific asbestos abatement project design and work plan for each work area. An Asbestos Abatement Design Consultant licensed by the MEDEP will prepare the design. The CONTRACTOR will submit a written work plan and sketches of the work procedures to be used in the removal, disposal and replacement of materials. The abatement plan will include location of asbestos control area, decontamination area, equipment decontamination enclosure, interface of trades involved in the construction, sequencing of asbestos-related work, disposal plan, type of wetting agent and sealant to be used, site specific air monitoring plan, personal air monitoring program and a description of the method to be employed to reduce fiber releases. For each work area, the abatement plan will show point of controlled access to the building for transporting ACM from the regulated area to the exterior of the building. The abatement plan will show auxiliary make-up air points, location of HEPA exhaust ventilation units, location of HEPA exhaust and location of pressure differential monitor(s).
2. Project Log: The CONTRACTOR shall maintain a Project Log throughout the project. The log will contain notes concerning accidents that may happen and deviation from standard work procedures and project information. At project completion, the original log will be submitted to the ENGINEER.
3. Work Schedule: A detailed work schedule will be prepared for the project including work hours, minimum daily staffing and goals and objectives.
4. Waste Disposal: The CONTRACTOR will identify the proposed waste disposal landfill for the project and provide a copy of the state approval certification.
5. Permits: The CONTRACTOR will provide a list of all permits, licenses or manifests to be applied for, including notification of the MEDEP.
6. The CONTRACTOR shall prepare, for signature by the OWNER, a MEDEP Project Monitoring Disclosure Form.
7. The CONTRACTOR shall prepare for signature by the OWNER, a MEDEP Asbestos Consultant Independent Business Relationship Disclosure Form.

- 1.3.4. Product and Equipment Data: Submit manufacturers' literature, catalog cuts and product data sheets for products and equipment to be used in this abatement project. Attach Material Safety Data Sheets to Product Data Sheets. Material Safety Data Sheets for products containing chemicals the CONTRACTOR may be utilizing on the project will be submitted. The CONTRACTOR will submit to the Consultant two copies of the Material Safety Data Sheets attached to the Product Data sheet for new products brought on site for which a Material Safety Data Sheet has not been previously submitted. This submission does not relieve the CONTRACTOR of the OSHA requirements of CONTRACTOR responsibilities with reference to the Material Safety Data Sheets nor does it relieve the CONTRACTOR of responsibility for the subsequent proper use of the product.

1.3.5. Personnel, Training, Medical, and Respiratory Fit Test Documentation: The CONTRACTOR will submit the following:

1. Experience Summary: Submit name and experience summary of proposed project supervisors and foremen.
2. Respirator Protection Program: Submit a summary of the CONTRACTOR's Respiratory Protection Program as required by 29 CFR 1910.1001 and 1926.58.
3. Personnel: Submit copies of Personnel Training Certificates, Medical Examinations, Medical Questionnaires, and Respirator Fit Tests:
 - a. Summary Sheet: Submit a summary sheet of employees, listed in alphabetical order, to include name, social security number, classification, MEDEP certificate number and dates of training, medical examinations, medical questionnaires and respirator fit tests.
 - b. Medical Examinations: Submit proof of medical examinations as required by 29 CFR 1910.1001. If the employee elects not to have a medical examination, submit a notarized statement from the employee on the non-election.
 - c. Medical Questionnaire: Submit a notarized statement that medical questionnaires have been administered in accordance with 29 CFR 1926.1101-Appendix D.
 - d. Respirator Fit Tests: Submit proof of respirator fit testing for employees to be assigned to the project. Fit Testing will be in accordance with 29 CFR 1910.1001-Appendix C and 1926.1101-Appendix C.

1.3.6. Asbestos Abatement CONTRACTOR's License: Submit a copy of the abatement CONTRACTOR's MEDEP license and the name of the CONTRACTOR's project Contract Representative.

1.3.7. Independent Asbestos Abatement Project Monitor (APM): Submit the name, associated firm and copy of MEDEP license of the independent APM.

1.4 QUALITY ASSURANCE

1.4.1. Job Site References: The CONTRACTOR will have on site at all times at least one copy of the following (stored in an onsite location as directed by ENGINEER):

1. Project Manual including Drawings and Specifications.
2. State of MEDEP, Chapter 425, Asbestos Management Regulations (effective date April 3, 2011).

1.4.2. Safety Compliance: The CONTRACTOR will, in addition to detailed requirements of this specification:

1. Comply with laws, ordinances, rules and regulations of federal, state, regional and local authorities regarding handling, storing, transporting and disposing of asbestos waste materials;
 2. Comply with the applicable requirements of the current issue of 29 CFR 1910.1001; 40 CFR 61, Subparts M and 29 CFR 1926;
 3. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting the work. Where the requirements of this specification and referenced documents vary, the most stringent requirement will apply.
- 1.4.3. Respirator Program: The CONTRACTOR will establish a respirator program as required by 29 CFR 1910.1001 and 1926.58. This program will comply with all paragraphs of 29 CFR 1910.134.

1.5 AUTHORITY TO STOP WORK

- 1.5.1. The ENGINEER has the authority to stop the abatement work at any time that conditions are not within the specifications and applicable regulations. The stoppage of work will continue until conditions have been corrected and corrective steps have been taken to the satisfaction of the OWNER and the ENGINEER. Standby time required for the CONTRACTOR's personnel and the APM to resolve violations will be at the CONTRACTOR's expense.
- 1.5.2. Stop-Work Airborne Fiber Levels will be as follows:
1. Inside Work Area (Removal): 0.5 f/cc (with wet methods).
 2. Outside Work Area: 0.01 f/cc as measured in clean room and/or the HEPA exhaust.
- 1.5.3. Stop work orders will be issued for, but not be limited, to the following:
1. Excessive airborne fiber concentrations inside and/or outside work area.
 2. Breaks in containment barriers.
 3. Loss of negative air pressure (0.02 inches of water - minimum negative pressure to be maintained).
 4. Failure of workers to wear appropriate respiratory protection.

PART 2 - PRODUCTS

2.1 MATERIALS

The CONTRACTOR shall furnish materials as necessary to perform the work specified herein and to comply with State of Maine Department of Environmental Protection, Chapter 425, Asbestos Management Regulations.

2.2 GENERAL EQUIPMENT TO BE PROVIDED BY CONTRACTOR

- 2.2.1. The CONTRACTOR shall furnish equipment, including personnel protective equipment, as necessary to perform the work specified herein and to comply with

State of Maine, Department of Environmental Protection, Chapter 425, Asbestos Management Regulations.

- 2.2.2. Workers and authorized visitors exposed to airborne concentrations of asbestos fibers will be provided with disposable, protective, whole body clothing, head coverings, gloves, and foot coverings, and use of tape. Protective clothing will be provided to all workers and authorized visitors in sizes adequate to accommodate movement without tearing. Goggles will be provided in accordance with ANSI Z87.1 to personnel engaged in certain asbestos operations when a full-face respirator is not required.
- 2.2.3 The CONTRACTOR shall provide water and electrical service as necessary to complete the Work.

2.3 ENCAPSULANTS

- 2.3.1. A spray type encapsulant will be used if necessary as a lockdown of exposed surfaces and piping. The encapsulant will be able to withstand heat and have the capacity to be applied pre-heated.

2.4 ELECTRICAL

- 2.4.1. All electrical installations will be accomplished under the direction of a Licensed Master Electrician.
- 2.4.2. Ground default circuit interrupters (GFCI) will be provided for all electrical equipment, to be installed outside the work area so that there is no live electrical wiring not protected by GFCI inside the work area. The CONTRACTOR will furnish and install a portable GFCI Power Supply Board and receptacles including the following:
 - 1. All circuits individually GFCI-protected;
 - 2. Weatherproof enclosure NEMA 3 (rain-tight) with receptacle covers;
 - 3. Construction durable, 16-gauge steel construction;
 - 4. At least two 20 amp circuits (for Project Monitor);
 - 5. Main circuit breaker; and
 - 6. Components UL listed.
- 2.4.3. The Decontamination Facility will be furnished with power supply board with one 20-amp circuit for the APM. Additional duplex outlets for the APM will be supplied as requested.

PART 3 – EXECUTION

3.1 GENERAL

- 3.1.1. Develop an asbestos abatement design in accordance with Maine DEP Chapter 425 (Asbestos Management Regulations) for removal of asbestos-containing building materials, including a plan identifying the sequence of events and schedule for the work.

- 3.1.2. Comply with applicable worker health and safety regulations including but not limited to 29 CFR 1910 and 29 CFR 1926.
 - 3.1.3. Furnish all labor, materials, and equipment to access areas requiring abatement. Provide and set up necessary engineering and safety controls to access hazardous materials within the building including walkways, railings or other barricades, and flooring supports.
 - 3.1.4. Provide and set up necessary environmental and engineering controls to contain potentially hazardous dusts from impacting the public, workers at the site, or occupants of adjacent properties.
 - 3.1.5. Limit access to the work area to the CONTRACTOR, the CONTRACTOR'S employees, and persons designated by the OWNER.
 - 3.1.6. The general location and estimated quantity of asbestos-containing materials identified at the Site building is presented in the "Hazardous Building Materials Data Gap Investigation" dated June 21, 2021 prepared by Ransom Consulting, LLC and included within Appendix I; however, the CONTRACTOR is responsible to confirm/determine the actual quantities of asbestos-containing materials.
 - 3.1.7. Package asbestos-containing material waste for disposal by double bagging in 6-mil poly bags or double wrapping in 6-mil poly sheeting. Prior to bagging or wrapping, waste that may puncture disposal bags or wrap shall be enclosed with burlap or other suitable material that will prevent bag failure.
 - 3.1.8. Properly transport and dispose of all asbestos-containing materials in accordance with State of Maine and federal guidelines.
 - 3.1.9. The CONTRACTOR shall provide work area and perimeter monitoring and final asbestos abatement clearance evaluation, sampling, and analysis for each work area. Asbestos monitoring and clearance shall be performed in accordance with State of Maine and federal guidelines.
 - 3.1.12. The CONTRACTOR shall provide temporary weather-tight seals of any other openings that remain (e.g., doorways, hatchways, roof, and wall openings, etc.) following asbestos abatement activities. CONTRACTOR shall patch substrates/sheathing and install weather-tight temporary roofs such as ice and water shield membranes or approved equal, seal door openings with plywood, and install Tyvek (or approved equal) over walls, after removal of asbestos-containing roofing, doors, windows, and siding materials.
- 3.2 WORKER PROTECTION
- 3.2.1. General:
 1. All asbestos abatement work will be performed in accordance with 29 CFR 1910.1001, 29 CFR 1926.1101, State of Maine Department of

Environmental Protection, Chapter 425, Asbestos Management Regulations and as specified herein.

2. The CONTRACTOR will provide all authorized visitors with respirators, new filters, protective clothing, headgear, eye protection, footwear, and hard hats as in the procedures described herein and afford them the use of all facilities to hold them free of contamination of asbestos fibers.
3. The CONTRACTOR will provide the decontamination and work procedures to be followed by workers, as well as the results of the personal air monitoring. This information must be posted in the clean room.

3.2.2. Respiratory Protection:

1. Respiratory protection will be worn by all persons potentially exposed to asbestos from the initiation of the asbestos abatement project until all areas have been given clearance. Clearance will be obtained by visual observation and air monitoring conducted by the APM.
2. Personal samples will be collected within the worker's breathing zone. Personal sampling will be the responsibility of the CONTRACTOR. Personal sampling results will be available on site no later than 24 hours after sampling.
3. The filters provided for respirators used during the course of this work will be NIOSH approved for asbestos fibers.

3.2.3. Protective Clothing:

1. The CONTRACTOR will provide to all workers, foreman and superintendents, protective disposable clothing consisting of full body coveralls, head covers, gloves and 18-inch-high boot-type covers and reusable footwear.
2. The CONTRACTOR will provide eye protection and hard hats as required by job conditions and safety regulations.
3. Reusable footwear, hard hats and eye protection devices will be left in the "contaminated equipment room" until the end of the asbestos abatement work.
4. Upon completion of asbestos abatement, the footwear will be disposed of as contaminated waste or cleaned thoroughly inside and out using soap and water before removing it from the work area or from equipment and access area.
5. All disposable protective clothing will be discarded and disposed of as asbestos waste when the wearer exits from the workspace to the outside through the decontamination facilities.
6. The color of the disposable clothing worn outside the work area will be a different color than the disposable clothing worn inside the work area.

3.3 DECONTAMINATION FACILITY

- 3.5.1. For each abatement area the CONTRACTOR will provide decontamination facilities located in an area agreed upon as part of the approved Asbestos Abatement Plan.

3.5.2. The decontamination facility will be constructed and maintained as specified herein and in compliance State of Maine Department of Environmental Protection, Chapter 425, Asbestos Management Regulations.

3.4 MAINTENANCE OF THE WORK AREA

The CONTRACTOR shall maintain the work area as specified herein and in compliance with State of Maine, Department of Environmental Protection, Chapter 425, Asbestos Management Regulations.

3.5 ASBESTOS CONTROL AREA CONSTRUCTION

The CONTRACTOR shall prepare and maintain the asbestos control area (e.g., the Containment Area) as necessary to perform the work specified herein and in compliance with State of Maine, Department of Environmental Protection, Chapter 425, Asbestos Management Regulations.

3.6 ACM ABATEMENT METHODS

3.6.1. The CONTRACTOR shall conduct ACM removal as specified herein and in compliance with State of Maine, Department of Environmental Protection, Chapter 425, Asbestos Management Regulations.

3.6.2. The CONTRACTOR will be responsible to obtain work practice variances from MEDEP as necessary to complete the work.

3.6.3. Wrap and Cut methods of pipe insulation removal will be permitted.

3.7 FINAL CLEANUP AND INSPECTION PROCEDURE

3.7.1. After the removal of asbestos has been completed and before removal of barriers, piping and all other surfaces within the work area will be thoroughly wet cleaned and/or vacuumed. Waste containers (except those containers necessary for waste from final cleanup) will be packed, cleaned, and removed from the work area prior to final cleanup and monitoring.

3.7.2. The APM will evaluate the work area for visible material. The CONTRACTOR will re-clean if necessary and the APM will re-inspect.

3.7.3. After the area passes the evaluation the APM will perform the final aggressive clearance. The samples will be analyzed by the PCM method with clearance criteria of all samples (total fiber count) of less than 0.010 f/cc.

3.8 DISPOSAL

3.8.1. All waste material shall be properly handled, wetted, containerized, and disposed in accordance with State of Maine, Department of Environmental Protection, Chapter 425, Asbestos Management Regulations. The CONTRACTOR will count or measure the volume of each filled container leaving the work area and will maintain a written record of such.

- 3.8.2. Warning labels, having waterproof print and permanent adhesive, will be affixed to the sides of all waste bags or transfer containers. Warning labels will be conspicuous and legible and in accordance with OSHA 1926.1101.
- 3.8.3. Once a dumpster of waste containers has accumulated, the CONTRACTOR will arrange for transportation to the landfill, or to a pre-designated and approved off-site temporary location. Waste will not remain on-site longer than 5-days following completion of asbestos abatement activities.
- 3.8.4. Waste Transportation and Disposal Regulations:
1. It is the responsibility of the CONTRACTOR to determine and ensure compliance with the current waste handling regulations applicable to the work site and the current regulations for waste transportation to and disposal at each ultimate landfill. The CONTRACTOR will comply fully with these regulations and with all U.S. Department of Transportation and EPA requirements.
 2. If required, the CONTRACTOR (or Subcontractor), at no additional cost, will maintain a valid hazardous waste transporter's permit and identification number and will document and fully comply with any hazardous waste manifesting requirements.
 3. The CONTRACTOR will provide legal transportation of this waste to the ultimate disposal landfill and will have the waste hauler and the landfill OWNER complete all other required manifests, dump slips, or other forms. The completed original of the Waste Shipment Record and copies of the other forms will be sent to the ENGINEER within five calendar days.
 4. Waste may be transported to and temporarily stored at a pre-approved off-site storage area owned by the CONTRACTOR, but it must ultimately be disposed of at the specified landfill before any payments are made.
- 3.8.5. Waste Disposal Fees: All CONTRACTOR contaminated waste handling costs, such as waste packaging, on-site/off-site storing/handling, transport/disposal, permitting, record keeping, and non-contaminated waste handling must be included in the CONTRACTOR's proposal as applicable to removal of asbestos materials and/or performance of the related abatement activities.

END OF SECTION

APPENDIX C

Hazardous Based Materials Inventory

Request for Proposal
Asbestos and Universal Waste Removal
Former Morse High School 1941 and 1968 Additions
826 High Street
Bath, Maine



400 Commercial Street, Suite 404
Portland, ME 04101
207.772.2891

May 26, 2023

Project 222.06056

Ms. Emily Ruger
Director of Community & Economic Development
City of Bath
55 Front Street
Bath, Maine

RE: Hazardous Building Materials Inventory
Former Morse High School – 1941 and 1968 Additions
826 High Street
Bath, Maine

Dear Emily:

On behalf of the City of Bath, Ransom Consulting, LLC (Ransom) has prepared this report presenting the results of the Hazardous Building Materials Inventory (HBMI) performed at the 1941 and 1968 additions to the former Morse High School (“Morse High School Additions”) located at 826 High Street in Bath, Maine. This work was completed by the City of Bath utilizing City of Bath’s Brownfields Revolving Loan Fund (RLF) program income. A Site Location Map is provided as Figure 1.

The work was authorized by the City of Bath, as part of environmental due diligence prior to potential redevelopment of the Site. This work was completed in accordance with Ransom’s Site-Specific Quality Assurance Project Plan (SSQAPP, Addendum No. 68, Rev. 0), dated March 29, 2023, which was provided to the United States Environmental Protection Agency (U.S. EPA) and Maine Department of Environmental Protection (MEDEP) prior to initiation of field sampling activities. The HBMI included sampling for asbestos-containing materials (ACM), sampling for polychlorinated biphenyls (PCBs) in building materials, and an evaluation of other hazardous and potentially hazardous building components.

EXECUTIVE SUMMARY

Given the age and construction of the former Morse High School additions (constructed in 1941 and 1968), there is potential for ACM and/or PCBs to be present in the building materials. Therefore, Ransom conducted this HBMI in April 2023 to identify hazardous materials, in advance of potential future redevelopment, which is anticipated to include demolition of the Morse High School additions. Based on the results of this inspection, Ransom draws the following conclusions:

1. ACM including vinyl floor tiles and mastics were identified at the Morse High School additions. Materials identified as ACM that may be impacted by future renovation or demolition activities should be properly removed for off-site disposal or otherwise abated, prior to such activities. Additional suspects or hidden materials that could not be observed may also be present.
2. PCBs were not detected above the U.S. EPA threshold value for “Unauthorized Use” PCB products of 50 milligrams per kilogram (mg/kg) in bulk material samples collected during this HBMI. Therefore, building materials at the Morse High School additions are not considered PCB bulk product waste.

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3. Universal Waste items, including fluorescent light tubes, fluorescent light ballasts, and emergency exit lights/signs identified at the Morse High School additions, are subject to hazardous and/or universal waste disposal requirements.

FACILITY DESCRIPTION

The former Morse High School building was constructed in multiple phases, beginning in 1935, with additions constructed in 1941, 1968, and 1995. The activities discussed herein were limited to the 1941 and 1968 building additions and did not include the remainder of the former Morse High School building. The 1941 addition is a slab on grade building comprised of three floors. The 1968 addition is a slab on grade building comprised of two floors. The 1968 addition includes one gymnasium and the vocational school with multiple classrooms, a woodworking shop and automotive garage. Both additions have exterior brick facades to mirror the original 1935 building.

A Site Layout plan showing the former Morse High School building and associated additions is attached as Figure 1. Generalized floor plans showing sample locations in the 1941 and 1968 additions are included as Figures 2, 3, and 4. Exterior sample locations are shown on the attached Figure 5. A photograph log documenting our key findings is included as Attachment A.

PREVIOUS ASSESSMENTS

Ransom reviewed historic Asbestos Hazard Emergency Response Act (AHERA) inspection reports provided by the City of Bath for the former Morse High School. These inspections were used to verify previously identified ACM and determine additional materials which would require sampling.

ASBESTOS-CONTAINING MATERIALS

Ransom conducted an inspection of the former Morse High School Additions for the presence of ACM on April 6, 7, and 11, 2023. The scope of the ACM inspection included the identification, quantification, and sampling of accessible suspect building materials on the interior and exterior portions of the former Morse High School Additions. The inspection was conducted by Eriksen Phenix and Wesley Harden of Ransom, who are certified by Maine and accredited by the U.S. EPA as asbestos inspectors. Copies of Wesley Harden's and Eriksen Phenix's most recent training certificates and state asbestos inspector certifications are provided as Attachment B.

Ransom collected 202 discrete samples from 61 suspect ACM identified on the interior and exterior of the former Morse High School Additions. Samples were analyzed by Optimum Analytical and Consulting, LLC (Optimum) of Salem, New Hampshire. Optimum is a Maine-licensed asbestos analytical laboratory and is also certified to perform bulk sample analysis by the National Voluntary Laboratory Accreditation Program (NVLAP). Copies of Optimum's relevant certifications are provided as Attachment B.

In the State of Maine, Occupational Safety and Health Administration (OSHA), the U.S. EPA, and the MEDEP are responsible for regulating the release of asbestos into the environment and protecting workers from exposure to airborne asbestos fibers. OSHA defines ACM as "any material containing more than one percent asbestos." MEDEP defines ACM as "any material containing asbestos in

quantities greater than or equal to one percent by volume as determined by weight, visual evaluation, and/or point count analysis.” Bulk samples of friable miscellaneous materials (e.g., pipe insulation, pressed fiber ceiling tile) were analyzed using the *Method for the Determination of Asbestos in Bulk Building Materials*, EPA/600/R-93/116 (1993) via polarized light microscopy (PLM) visual estimation. Non-friable organically bound (NOB) materials (e.g., floor tiles, roofing materials, mastics) were analyzed using PLM NOB–EPA 600/R-93/116 using the gravimetric reduction method (GRM).

The following is a brief discussion of the ACM identified during our survey:

1. **9”x9” floor tile, white (sample set 010) and associated black mastic (Sample set 011):** ACM 9”x9” floor tile and associated black mastic were identified under 12”x12” floor tiles in the shop restrooms.
2. **Floor tile mastic, tan/black (sample set 016):** ACM tan/black mastic was identified under non-ACM 12”x12” floor tiles in classrooms on the second floor of the 1968 addition.
3. **Floor tile mastic, black (sample set 025):** ACM black mastic was identified under non-ACM 12”x12” floor tiles in rooms between the automotive technology classroom and the building construction classroom.
4. **Floor tile mastic, black (sample set 032):** ACM black mastic was identified in connection with ACM 9”x9” floor tiles (sample sets 051, 052, 053, and 054) in the hallways and classrooms on the first and second floor of the 1968 addition.
5. **Green 9”x9” floor tile (sample set 049) and associated black mastic (Sample set 050):** ACM green 9”x9” floor tiles and associated black mastic were identified in the second-floor band room closets of the 1968 addition.

The following is a listing of materials were identified as presumed ACM (PACM) from the previous AHERA inspections for the Site:

1. **Ceiling tiles:** ACM ceiling tiles were previously identified in the girl’s locker room in the 1968 addition.
2. **Pipe fittings:** ACM pipe fittings were previously identified in the radio room, radio room hallway, boy’s locker room, and janitor’s closet in the 1968 addition.
3. **Pipe insulation:** ACM pipe insulation was previously identified in the welding shop, radio room, radio room hallway, boy’s locker room, and janitor’s closet in the 1968 addition.

The majority of the piping insulation throughout the former Morse High School Additions was observed to be fiberglass. “Hard-pack” insulation was observed on numerous small-diameter pipe fittings associated with the heating system, and large-diameter pipe fittings associated with the roof drain system. Sampling of this “hard pack” fitting insulation (sample sets 020 and 036) did not identify asbestos in connection with these fittings.

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The MEDEP requires consultants to advise the building owner or owner's agent whenever the asbestos analytical laboratory has reported suspect ACM below ten percent asbestos. The owner or owner's agent may either elect to treat these materials as positive for asbestos or have the samples re-analyzed using an alternate method as listed below:

1. PLM EPA/600R-93/116 - Point Count (friable ACM); or
2. Transmission Electron Microscopy (TEM):
 - a. U.S. EPA NOB EPA/600/R-93/116b §2.5; or
 - b. TEM Chatfield Method.

Each of the ACM identified during Ransom's HBMI falls within this range. However, based on the nature of the analysis already conducted and the concentrations of asbestos fiber detected, re-analysis was not recommended for this investigation. A listing of all samples collected, analytical results, and estimated quantities of confirmed ACM can be found in Table 1. A copy of the laboratory analytical report can be found as Attachment C.

Asbestos fibers present potential health hazards when they become airborne. Federal regulations suggest that ACM may be managed in place, as long as it remains intact, undamaged, and in good condition. Current regulations require that asbestos-containing building materials be removed if they will be disturbed by demolition, renovation, or other building maintenance activities. ACM identified at the Site that will be impacted by proposed renovation or demolition will require removal, prior to the initiation of these activities. ACM abatement should be performed using approved methods in accordance with applicable federal and state regulations. ACM should be removed by a licensed asbestos abatement contractor and in accordance with a project design prepared by a certified asbestos abatement project designer, except where exempt from applicable rules.

Asbestos-containing asphalt-based roofing materials, exterior caulks, glazings, and sealants are exempt from MEDEP asbestos abatement regulations, provided that these materials are removed wholly intact and are not sawed, sanded, grinded, cut, or drilled during demolition or renovation. OSHA regulations still apply, and it is generally recommended that State of Maine-licensed asbestos abatement contractors conduct the removal of all ACM identified if it is to be impacted by renovation/demolition activities. Asbestos-containing waste generated from this project would be considered a "special waste" and require disposal in a landfill permitted to accept asbestos and/or an on-site consolidation area, if approved by the MEDEP.

PCBS IN BUILDING MATERIALS

PCBs may be present in building materials (most typically including caulks and paints) in buildings constructed or renovated between 1950 and 1978. Building materials with concentrations of PCBs greater than or equal to 50 mg/kg are considered an "Unauthorized Use" of PCBs under 40 Code of Federal Regulations *Part 761—Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*, and are classified as "PCB Bulk Product Waste" when they enter the construction/demolition waste stream. The definition of PCB Bulk Product Waste also



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includes building materials that have been coated or serviced with PCBs. Masonry, wood, metals, and other building materials that are purposely coated with PCB-containing products are regulated as PCB Bulk Product Waste if the product coating the building materials contains PCBs at concentrations ≥ 50 mg/kg *and* the affected building materials are removed from use with the coating product adhered to the substrate.

To evaluate the potential presence of PCBs in building materials, Ransom collected six bulk samples (PCB-1 through PCB-6) of caulks and paints from the former Morse High School Additions for laboratory analysis. PCB sample locations are shown on Figures 2 and 5. Samples were placed in laboratory-supplied glassware, placed in a cooler with ice, and delivered under chain-of-custody to Alpha Analytical, Inc. (Alpha) of Westborough, Massachusetts for PCB analysis via U.S. EPA Method 8082A and using the Soxhlet extraction method, U.S. EPA Method 3540C.

Laboratory analytical results for total PCBs ranged from below the laboratory reporting limit to 7.34 milligrams per kilogram (mg/kg). These concentrations are below the Toxic Substances Control Act (TSCA) guidance of 50 mg/kg. Therefore, PCB bulk product waste was not identified in connection with the building materials at the former Morse High School Additions. Laboratory results from PCB testing are provided in Table 2 and a copy of the laboratory analytical data report is included as Attachment C.

OTHER HAZARDOUS AND POTENTIALLY HAZARDOUS MATERIALS

As part of our inspection, Ransom also conducted an assessment for other hazardous and potentially hazardous equipment and fixtures identified in the former Morse High School Additions that are typically classified, handled, and disposed as “universal” wastes. Specifically, Ransom’s survey included an inspection for the following universal wastes:

Polychlorinated Biphenyls

PCB-containing oil is sometimes found in compressor and hydraulic fluids, the dielectric fluid of older electrical transformers, and the capacitors associated with older fluorescent light ballasts. Although electrical equipment is currently required to be properly labeled indicating the presence or absence of PCBs, this has not always been the case. Ransom observed approximately 750 light ballasts within the former Morse High School Additions which have the potential for PCB-containing dielectric fluid. Electrical fixtures were not disassembled to inspect light ballasts for the presence of “No PCBs” labeling, due to electrical safety concerns.

With the power service off/disconnected by a licensed electrician, Ransom recommends that ballasts be inspected for “No PCBs” labeling prior to demolition or renovation activities that could impact them. Fluorescent light ballasts without the “No PCBs” labels are presumed to contain PCBs and should be managed as hazardous waste and recycled or disposed of in accordance with applicable federal and state regulations.

Mercury-Containing Components

Mercury-containing components such as fluorescent light tubes and high-intensity discharge (HID) lamps are classified as Universal Wastes and are regulated by the U.S. EPA under 40 CFR Parts 260–273.



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Ransom observed a total of approximately 1,580 fluorescent light tubes and HID lamps within the former Morse High School Additions that likely contain mercury.

Components presumed to contain mercury should be removed and recycled in accordance with Universal Waste regulations prior to proposed redevelopment activities that may impact them.

Heavy Metals

Emergency lighting systems/units are typically powered by batteries containing various heavy metals. Ransom observed approximately 40 emergency exit light/sign units within the former Morse High School Additions. Components presumed to contain heavy metals should be removed and recycled in accordance with Universal Waste regulations prior to proposed redevelopment activities that may impact them.

An inventory of other hazardous and potentially hazardous materials identified at the Site, typically managed as “universal” wastes, can be found in Table 3.

QUALITY ASSURANCE/QUALITY CONTROL

Bulk asbestos samples were analyzed by Optimum and bulk PCB samples were analyzed by Alpha. Both labs provided analysis and data according to standard operating protocols and laboratory data validation guidance included in Ransom’s SSQAPP for the Site. Each lab provided the following information in their analytical reports:

1. Data results sheets, including analytical results from duplicate samples;
2. Description of analytical methods and results; and
3. Other pertinent results/limits as deemed appropriate.

As outlined in the SSQAPP and/or our Generic QAPP, at the completion of the field tasks and receipt of the analytical results, a data usability analysis was conducted to document the precision, bias, accuracy, representativeness, comparability, and completeness of the results. The following sections present an analysis of Quality Assurance/Quality Control (QA/QC) protocols for sampling and testing conducted as part of Ransom’s HBMI.

Precision

Precision measures the reproducibility of measurements. The precision measurement is established using the relative percent difference (RPD) between the duplicate sample results. Duplicate samples of suspect ACM were submitted to the laboratory in accordance with Maine asbestos sampling requirements, which require minimum triplicate analysis of samples in order for a material to be deemed negative for asbestos. Bulk samples of 50 distinct suspect ACM were submitted for triplicate laboratory analysis, 39 of which tested negative for asbestos. Of the 39 sample sets testing negative for asbestos, each of the corresponding triplicate analyses were also consistently non-detect for asbestos. The precision of the sample results from asbestos testing is therefore deemed to be acceptable.



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One duplicate sample (“PCB-DUP”) of suspect PCB containing material was collected and submitted for laboratory analysis along with the parent sample (“PCB-1”). Total PCBs were not detected in either the parent or duplicate samples; therefore, a RPD between the parent and duplicate samples could not be calculated.

Bias

Bias is the systematic or persistent distortion of a measurement process that causes errors in one direction. Bias assessments are made using personnel, equipment, and spiking materials or reference materials, as independent as possible from those used in the calibration of the measurement system. Bias assessments are typically based on the analysis of spiked samples so that the effect of the matrix on recovery is incorporated into the assessment. A documented spiking protocol and consistency in following that protocol are important to obtaining meaningful data quality estimates.

Matrix spike and matrix spike duplicate samples (MS/MSD) were used to assess bias in the PCB results, as prescribed in the specified methods. Acceptable recovery values were within the recoveries specified by each of the analysis methods. Control samples for assessing bias were analyzed at a rate as specified in the analytical SOPs and specified analytical methods. No bias issues were identified by the laboratory in the PCB samples collected and analyzed during this assessment.

MS/MSD are not required protocols of U.S. EPA Method 600 and were not employed during laboratory analysis for asbestos. Therefore, no determination of laboratory bias was assessed for asbestos.

Accuracy

Accuracy is a statistical measurement of correctness and includes components of random error (variability due to imprecision) and systemic error. It therefore reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ from the true value or known concentration of the spike or standard. For certain chemical analyses, surrogate compound recoveries are used to assess accuracy and method performance for each sample analyzed. Analysis of performance evaluation samples can provide additional information for assessing the accuracy of the analytical data being produced.

The lab provides a non-conformance summary that reports if the quality control criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for analysis were within acceptable limits. All quality control criteria for the PCB and lead samples were within acceptable limits.

Representativeness

Objectives for representativeness are defined for each sampling and analysis task and are a function of the investigative objectives. Representativeness was accomplished during this project through use of standard field, sampling, and analytical procedures. All objectives for sampling and analytical representativeness, as specified in SSQAPP, were met.

Comparability

Comparability is the confidence with which one data set can be compared to another data set. The objective for this QA/QC program is to produce data with the greatest possible degree of comparability. Comparability was achieved by using standard methods for sampling and analysis, reporting data in standard units, normalizing results to standard conditions and using standard and comprehensive reporting formats. Complete field documentation was used, including standardized data collection forms to support the assessment of comparability. Historical comparability shall be achieved through consistent use of methods and documentation procedures throughout the project.

Data Usability

Based on a review of the quality assurance/quality control measures, it appears that the data obtained during this investigation is of adequate quality for the purpose of making decisions regarding potential exposure risks and waste management.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this HBMI, Ransom makes the following conclusions and recommendations.

1. ACM including vinyl floor tiles and mastics were identified at the former Morse High School additions. Materials identified as ACM that may be impacted by future renovation or demolition activities should be properly removed for off-site disposal or otherwise abated, prior to such activities. Additional suspect or hidden materials that could not be observed may also be present.
2. PCBs were not detected above the U.S. EPA threshold value for “Unauthorized Use” PCB products of 50 milligrams per kilogram (mg/kg) in bulk material samples collected during this HBMI. Therefore, building materials at the Morse High School additions are not considered PCB bulk product waste.
3. Universal Waste items, including fluorescent light tubes, HID lamps, fluorescent light ballasts, and emergency exit lights/signs identified at the former Morse High School Additions, are subject to hazardous and/or universal waste disposal requirements.

LIMITATIONS

This HBMI is subject to certain limitations, which must be considered when interpreting the results. The information presented in this report is based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. Conclusions represent the professional judgment of Ransom, based on the data obtained from the work and the site conditions encountered at the time the work was performed and are not to be construed as legal advice. In addition to these general stipulations, additional site-specific limitations are as follows:

Emily Ruger
City of Bath

1. Our survey was conducted utilizing limited destructive inspection and sampling techniques. No equipment was dismantled to access and inspect internal components. Limited additional suspect materials may be present in concealed or inaccessible spaces, including wall and ceiling cavities, subflooring layers, etc., which may be disturbed as part of future renovation or demolition.
2. The scope of our inspection was limited to observation of aboveground conditions, and may not identify subterranean materials such as foundation sealants, asbestos-cement utility piping, etc.
3. Our inspection was conducted on behalf of the City of Bath and is representative of the conditions observed at the time of this report. No reliance shall be made by other users, for additional purposes, or for future demolition/renovation projects at the site.

COST ESTIMATES

Based on the conditions observed during our investigation and industry standards in recent years, Ransom has provided estimates for the abatement of the identified ACM identified at the former Morse High School Additions. Please note that abatement cost estimates assume all identified ACM and universal wastes will be removed and properly disposed of off-site. If the building was assumed to remain in use (rather than be demolished), ACM and Universal Waste in active use may potentially be managed in place, and may not require removal, as long as they remain intact, undamaged, and in good condition. Line-item cost estimates for removal of asbestos-containing materials are provided in Table 4. Removal costs for Universal Wastes are provided in Table 5. Table 6 provides a summary of all estimated abatement costs for the project.

The cost estimates presented are not intended to be quotes for these services, but rather engineering cost estimates for project planning purposes. Ransom recommends that competitive contractor bids be solicited for proper abatement and/or disposal of the identified hazardous materials. Ransom also recommends that the cost estimate tables be removed and retained prior to providing copies of this report to contractors to obtain competitive bids for this work.

If you have any questions regarding the information in this report, please do not hesitate to contact any of the undersigned.

Sincerely,

RANSOM CONSULTING, LLC



Wesley Harden, L.G.
Hazardous Materials Specialist



Eriksen Phenix, L.G.
Project Manager



Stephen J. Dyer, P.E.
Principal/Program Manger



Project 222.06056
HBMI Text-Morse High School 1941 and 1968 additions

Page 9
May 26, 2023

**TABLE 1: Summary of Asbestos Laboratory Testing Results
Hazardous Building Materials Inventory
Morse High School - 1941 and 1968 additions
826 High Street, Bath, Maine**

Material	Location	Sample Number	Asbestos Quantity and Type ^[2,4]	Estimated Quantity ^[3]
Caulk, light gray	Exterior vinyl frame windows and panels, 1968 addition	001A through 001C	NAD	
Caulk, dark gray	Exterior aluminum frame windows and security doors	002A through 002C	NAD	
Caulk, brown	Exterior window insulation board openings, 1968 addition	003A through 003C	NAD	
Caulk, white	Exterior vinyl frame windows, 1941 addition	004A through 004C	NAD	
Foam board insulation coating, gray	Exterior window insulation board openings, 1968 addition	005A through 005C	NAD	
12"x12" floor tile, dark blue	Shop, second floor, third floor 1968 addition	006A through 006C	NAD	
12"x12" floor tile mastic, tan	Shop, second floor, third floor 1968 addition	007A through 007C	NAD	
12"x12" floor tile, tan	Shop restrooms	008A through 008C	NAD	
12"x12" floor tile mastic, tan	Shop restrooms	009A through 009C	NAD	
9"x9" floor tile, white	Shop restrooms	010A	5.16% Chrysotile	525 SF
		010B and 010C	NA/PS	
Floor tile mastic, black	Shop restrooms	011A	8.98% Chrysotile	525 SF
		011B and 011C	NA/PS	
Fibrous insulation board backing	Boy's locker room	012A through 012C	NAD	
12"x12" floor tile, #2 blue	First and second floor, 1968 addition	013A through 013C	NAD	
12"x12" floor tile, #3 blue	First and second floor, 1968 addition	014A through 014C	NAD	
12"x12" floor tile, white	First and second floor classrooms, 1968 addition	015A through 015C	NAD	
Mastic, tan/black under 12"x12" floor tiles	Rooms 124, 125, 126, 127, 129, 131, and 122 - 1968 addition	016A	2.36% Chrysotile	7,500 SF
		016B and 016C	NA/PS	
12"x12" floor tile, white/blue	Second floor hallway, room 123 1968 addition	017A through 017C	NAD	
Mastic, tan associated with 017ABC	Second floor hallway, room 123 1968 addition	018A through 018C	NAD	
12"x12" floor tile, #4 blue	Second floor, third floor	019A through 019C	NAD	
Small diameter fitting insulation, gray	Throughout 1968 addition	020A through 020C	NAD	
Plaster, rough coat	Throughout 1968 addition	021A through 021G	NAD	
Plaster, skim coat	Throughout 1968 addition	022A through 022G	NAD	
Drywall	Throughout 1968 addition	023A through 023C	NAD	
Joint compound	Throughout 1968 addition	024A through 024C	NAD	
Mastic, black	Classroom adjacent to construction shop	025A	2% Chrysotile	375 SF
		025B and 025C	NA/PS	
2'x2' ceiling tiles	Library, career center, alumni room, Room 13, throughout first floor 1968 addition	026A through 026C	NAD	
1'x1' ceiling tiles	Above 2'x2' ceiling tiles in Room 13 and alumni room 1968 addition	027A through 027C	NAD	
2'x4' ceiling tile, long lines	Throughout first floor 1968 addition	028A through 028C	NAD	
2'x4' ceiling tile, type 2	Throughout first floor 1968 addition	029A through 029C	NAD	
2'x4' ceiling tile, type 3	Throughout first floor 1968 addition	030A through 030C	NAD	
White wall pannel mastic	First floor administration office	031A through 031C	NAD	
Mastic, black	Associated with 9"x9" floor tiles throughout 1968 addition hallways and rooms 133, 135, 136, 136B, 137, 138, 139, 140, 142, 146, 147, 149, Teacher's Room	032A	4.53% Chrysotile	19,700 SF
		032B and 032C	NA/PS	
White floor leveling compound	First floor hallways 1968 addition	033A through 033C	NAD	
Brown floor underlayment	Girls Gym	034A through 034C	NAD	
Yellow carpet mastic	Library and career center	035A through 035C	NAD	
Large diameter pipe fittings insulation	Throughout 1968 addition	036A through 036C	NAD	
12"x12" floor tile, red	Library	037A through 037C	NAD	
12"x12" floor tile, gray/white fleck	Library	038A through 038C	NAD	
Mastic, yellow associated with 037ABC and 038ABC	Library	039A through 039C	NAD	
12"x12" acoustic panel	Band Room	040A through 040C	NAD	
Jute backed linoleum	1941 hallways and classrooms, third layer	041A through 041C	NAD	
Pebble pattern floor tile, tan	1941 hallways and classrooms, second layer	042A through 042C	NAD	
12"x12" ceiling tile, white	1941 hallway	043A through 043C	NAD	
Glue daubs, brown associated with 043ABC	1941 hallway	044A through 044C	NAD	
Plaster, skim coat	Throughout 1941 building	045A through 045G	NAD	

**TABLE 1: Summary of Asbestos Laboratory Testing Results
Hazardous Building Materials Inventory
Morse High School - 1941 and 1968 additions
826 High Street, Bath, Maine**

Material	Location	Sample Number	Asbestos Quantity and Type ^[2,4]	Estimated Quantity ^[3]
Plaster, rough coat	Throughout 1941 building	046A through 046G	NAD	
12"x12" wall tile, white	Band room closets, second floor	047A through 047C	NAD	
Glue daubs, brown associated with 047ABC	Second floor band room closets - 1968 addition	048A through 048C	NAD	
9"x9" floor tile, green	Second floor band room closets - 1968 addition	049A	3.48% Chrysotile	300 SF
		049B and 049C	NA/PS	
Mastic, black associated with sample set 049	Second floor band room closets - 1968 addition	050A	6.9% Chrysotile	300 SF
		050B and 050C	NA/PS	
9"x9" floor tile, brown	First and second floor hallways - 1968 addition	051A	5.05% Chrysotile	3,800 SF
		051B and 051C	NA/PS	
9"x9" floor tile, gray with white fleck	Second floor, rooms 142, 146, 147, teacher's room - 1968 addition	052A	3.74% Chrysotile	7,200 SF
		052B and 052C	NA/PS	
9"x9" floor tile, red	Second floor, rooms 148 and 149 - 1968 addition	053A	2.86% Chrysotile	4,800 SF
		053B and 053C	NA/PS	
9"x9" floor tile, white	Second floor, rooms 135, 136, 136B 137, 138, 140, 133 - 1968 addition	054A	2.36% Chrysotile	4,400 SF
		054B and 054C	NA/PS	
Rubber roof membrane, black	1968 roof	055A through 055C	NAD	
Foam board, yellow	1968 roof	056A through 056D	NAD	
Paper backing on foam board	1968 roof	057A through 057C	NAD	
Rubber roof membrane, black	1941 roof	058A and 058B	NAD	
Pressed fiber board, brown	1941 roof	059A through 059C	NAD	
Foam board, yellow	1941 roof	060A through 060C	NAD	
Paper backing on foam board	1941 roof	061A through 061C	NAD	
PRESUMED ACM FROM PREVIOUS AHERA SURVEYS				
<i>Ceiling tiles</i>	<i>Girls locker room</i>	<i>N/A</i>	<i>PACM</i>	<i>740 SF</i>
<i>Fittings</i>	<i>Radio room, hall connecting new to old building, boy's locker room</i>	<i>N/A</i>	<i>PACM</i>	<i>25 EA</i>
<i>TSI pipe insulation</i>	<i>Boy's locker room, janitor's closet, welding</i>	<i>N/A</i>	<i>PACM</i>	<i>130 LF</i>

NOTES:

1. Samples were collected on April 6, 7, and 11 by Ransom Consulting, LLC., and were analyzed by Optimum Analytical and Consulting, LLC of Salem, NH.
2. NA/PS = not analyzed/positive stop. Sample sets are analyzed until asbestos is identified in an amount greater than one percent.
3. SF = Square Feet. LF = Linear Feet. EA = Each. NA = Not Applicable.
4. NAD = No asbestos detected; NS = No Sample; *PACM* = *Presumed Asbestos Containing Material*.
5. Samples shown in bold are regulated ACM under MEDEP and U.S. EPA asbestos rules.

TABLE 2: PCBs in Building Materials Results
Hazardous Building Materials Inventory
Morse High School - 1941 and 1968 additions
826 High Street, Bath, Maine

Sample Identification	Sample Description	Location	Sample Matrix	Total PCBs (mg/kg)
PCB-1	Light gray caulk	Exterior vinyl frame windows and pannels, 1968 addition	Caulk	BRL (0.330)
PCB-2	Dark gray caulk	Exterior aluminium frame security doors	Caulk	BRL (0.309)
PCB-3	Brown caulk	Exterior insulation board window openings	Caulk	BRL (0.281)
PCB-4	White caulk	Exterior vinyl frame windows 1941 addition	Caulk	BRL (0.315)
PCB-5	Gray floor paint	Auto shop floors	Paint	6.36
PCB-6	Red floor paint	Boy's locker room	Paint	7.34

NOTES:




1. Samples were collected on April 6, 2023 by Ransom Consulting, LLC and were analyzed by Alpha Analytical of Westborough, Massachusetts.
2. BRL () = below reporting limit indicated in parentheses.
3. Values in **bold print** indicate Unauthorized Use PCB products ≥ 50 mg/kg (none identified)

TABLE 3: Inventory of Other Hazardous/Potentially Hazardous Materials
Hazardous Building Materials Inventory
Morse High School - 1941 and 1968 additions
826 High Street, Bath, Maine

Component	Hazard	Location	Quantity
Fluorescent light ballasts	PCBs	Throughout	750
Fluorescent light tubes (including CFLs)	Mercury	Throughout	1580
Emergency exit lights/signs	Heavy metals	Throughout	40



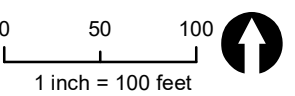
Legend & Notes

-  Subject Property
-  Morse High School Property
-  Parcel Boundary

Notes

1. Some features are approximate in location and scale
2. This plan has been prepared for the City of Bath. All other uses are not authorized unless written permission is obtained from Ransom Consulting, LLC.

Scale & Orientation



Prepared For

City of Bath
55 Front Street
Bath, Maine




Subject Property Address

Morse High School - 1941 & 1968 Additions
826 High Street, Bath, Maine

222.06056 | **May 2023**

Figure 1
Site Layout

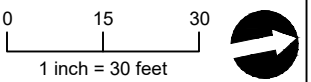
Legend & Notes

-  Sample Testing Negative for Asbestos
-  Sample Testing Positive for Asbestos
-  PCB Sample Location

Notes:

1. Site plan based on measurements and observations based on "Ahera Implementation in Public Schools" by Balsam Environmental Consultants dated 10/31/88
2. Some features are approximate in location and scale.
3. This plan has been prepared for City of Bath. All other uses are not authorized unless written permission is obtained from Ransom Consulting, LLC.

Scale and Orientation



Prepared For

City of Bath
55 Front Street
Bath, Maine

Site Address

Morse High School - 1941 and
1968 Additions
826 High Street
Bath, Maine

222.06056 | May 2023

Figure 2
First Floor



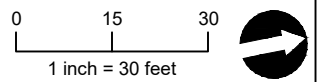
Legend & Notes

- ▲ Sample Testing Negative for Asbestos
- ▲ Sample Testing Positive for Asbestos

Notes:

1. Site plan based on measurements and observations based on "Ahera Implementation in Public Schools" by Balsam Environmental Consultants dated 10/31/88
2. Some features are approximate in location and scale.
3. This plan has been prepared for City of Bath. All other uses are not authorized unless written permission is obtained from Ransom Consulting, LLC.

Scale and Orientation



Prepared For

City of Bath
55 Front Street
Bath, Maine

Site Address

Morse High School - 1941 and
1968 Additions
826 High Street
Bath, Maine

222.06056 | May 2023

Figure 3
Second Floor



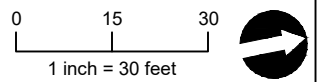
Legend & Notes

▲ Sample Testing
Negative for Asbestos

Notes:

1. Site plan based on measurements and observations based on "Ahera Implementation in Public Schools" by Balsam Environmental Consultants dated 10/31/88
2. Some features are approximate in location and scale.
3. This plan has been prepared for City of Bath. All other uses are not authorized unless written permission is obtained from Ransom Consulting, LLC.

Scale and Orientation



Prepared For

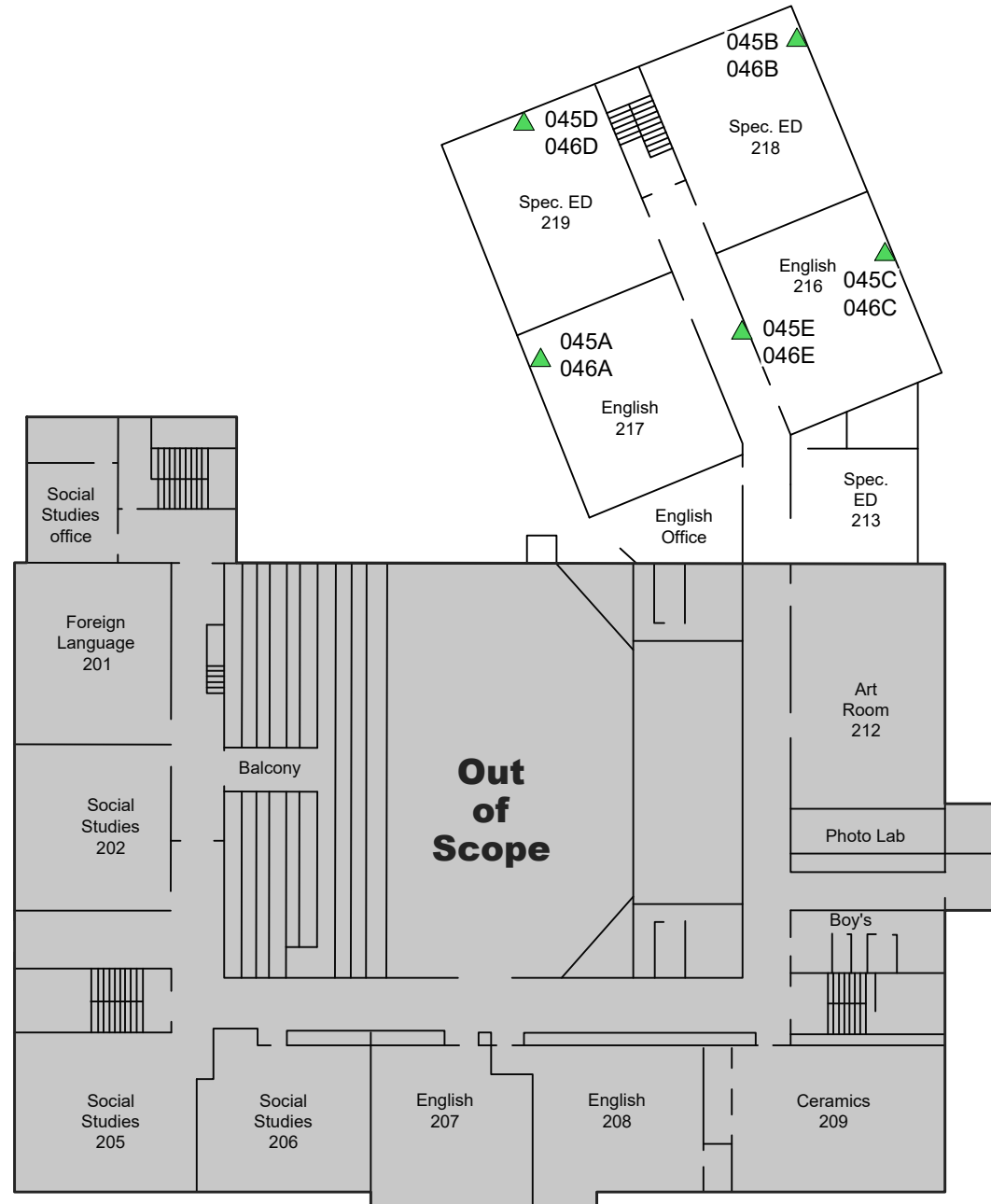
City of Bath
55 Front Street
Bath, Maine

Site Address



Morse High School - 1941 and
1968 Additions
826 High Street
Bath, Maine

222.06056 | May 2023

Figure 4
Third Floor



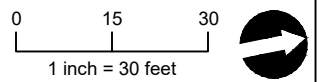
Legend & Notes

-  Sample Testing Negative for Asbestos
-  PCB Sample Location

Notes:

1. Site plan based on measurements and observations based on "Ahera Implementation in Public Schools" by Balsam Environmental Consultants dated 10/31/88
2. Some features are approximate in location and scale.
3. This plan has been prepared for City of Bath. All other uses are not authorized unless written permission is obtained from Ransom Consulting, LLC.

Scale and Orientation



Prepared For

City of Bath
55 Front Street
Bath, Maine

Site Address

Morse High School - 1941 and
1968 Additions
826 High Street
Bath, Maine

222.06056 | May 2023

Figure 5
Exterior



ATTACHMENT A

Photograph Log

Hazardous Building Materials Inventory
Morse High School – 1941 and 1968 Additions
826 High Street
Bath, Maine

Photograph Log



Photo 1 (April 6, 2023): Non-ACM 12"x12" floor tile and mastic (sample sets 008 and 009) over ACM 9"x9" floor tile (sample set 010) and associated mastic (sample set 011) located in the shop restroom.



Photo 2 (April 7, 2023): ACM tan/black mastic (sample set 016ABC) beneath non-ACM 12"x12" floor tiles on the first and second floors of the 1968 addition.



Photo 3 (April 11, 2023): ACM 9"x9" floor tile (sample set 049) and associated mastic (sample set 050) located in the second-floor band room closets in the 1968 addition.



Photo 4 (April 11, 2023): ACM residual mastic (sample set 032) and ACM 9"x9" brown floor tiles (sample set 051) located in the first and second floor hallways of the 1968 addition.



Photo 5 (April 11, 2023): ACM 9"x9" floor tiles (sample set 052) located on the second floor of the 1968 addition.



Photo 6 (April 11, 2023): ACM 9"x9" red floor tiles (sample set 053) located on the first floor of the 1968 addition.

Photograph Log



Photo 1 (April 6, 2023): PACM ceiling tiles located in the girl's locker room of the 1968 addition.



Photo 2 (April 7, 2023): PACM pipe insulation and fitting identified in the janitor's closet on the first floor of the 1968 addition.

ATTACHMENT B

Certifications

Hazardous Building Materials Inventory
Morse High School – 1941 and 1968 Additions
826 High Street
Bath, Maine



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



JANET T. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

February 12, 2023

Ransom Consulting, LLC
400 Commercial Street, Suite 404
Portland, Maine 04101



Dear Licensee:

Asbestos application(s) for individual certification of the **one** employee(s) listed below have been received and **approved**. Individual certification numbers are listed below and wallet card(s) are enclosed. Card(s) are property of the individual to whom each is issued. Your responsibility as a licensee is to ensure delivery of the cards to persons in your employment. This letter should be retained for your company files as record of certification. **Please attach 1 updated passport size photo with every application.**

Remember, in Maine all **certified employees** working on an asbestos abatement project, whether conducting removal/repair, air monitoring, design, inspection, or analysis functions, **must work for a State of Maine licensed asbestos firm** and carry his/her wallet card(s) on the job site.

As a reminder, prior to renewing your asbestos certification, the State of Maine **requires** an annual refresher course to be taken before submitting a renewal application. A certificate shall expire one year from the last day of the month from the date of issuance, **or on the last day of the month that the training certificate expires**, whichever is sooner.

All our asbestos forms can be found at <https://www.maine.gov/dep/waste/asbestos/forms.html>
Thank you for your cooperation and your completed application(s).

<u>Name</u>	<u>Category</u>	<u>Certification #</u>	<u>Exp. Date</u>
Wesley E. Harden	Inspector	AI-0874	01/31/2024

Sincerely,

Sandra J. Moody, Environmental Specialist
Division of Remediation
Bureau of Remediation and Waste Management

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143



JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



MELANIE LOYZIM
COMMISSIONER

State of Maine
Asbestos Abatement Program

Eriksen P. Phenix

Inspector
Cert No. AI-0560
Trn.Exp.Date 06/10/2023
Expiration Date 06/30/2023

This is not a legal form of official identification



July 19, 2022

Ransom Consulting, LLC
400 Commercial Street, Suite 404
Portland, Maine 04101

Dear Licensee:

Asbestos application(s) for individual certification of the **one** employee(s) listed below have been received and **approved**. Individual certification numbers are listed below and wallet card(s) are enclosed. Card(s) are property of the individual to whom each is issued. Your responsibility as a licensee is to ensure delivery of the cards to persons in your employment. This letter should be retained for your company files as record of certification. **Please attach 1 updated passport size photo with every application.**

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All our asbestos forms can be found at <https://www.maine.gov/dep/waste/asbestos/forms.html>
Thank you for your cooperation and your completed application(s).

<u>Name</u>	<u>Category</u>	<u>Certification #</u>	<u>Exp. Date</u>
Eriksen P. Phenix	Inspector	AI-0560	06/30/2023

Sincerely,



Sandra J. Moody, Environmental Specialist
Division of Remediation
Bureau of Remediation and Waste Management

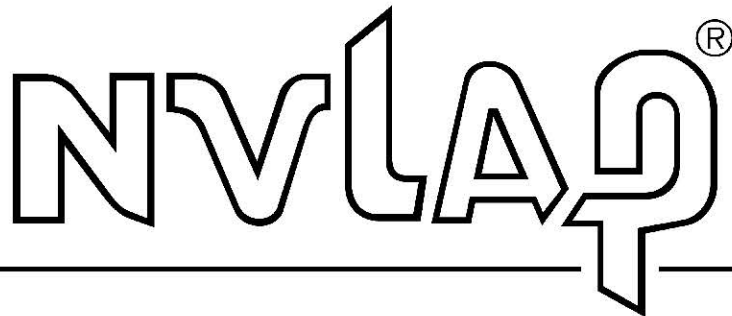
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PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101433-0

Optimum Analytical & Consulting LLC
Salem, NH

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2022-04-01 through 2023-03-31

Effective Dates



A handwritten signature in blue ink, appearing to read 'Dana S. Gorman', written over a horizontal line.

For the National Voluntary Laboratory Accreditation Program



State of Maine
Department of Environmental Protection

LICENSE

Optimum Analytical & Consulting, LLC

Asbestos Analytical Laboratory
(Bulk)

License Number: LB-0067

Expiration Date: 03/31/2023



State of Maine
Department of Environmental Protection

LICENSE

Optimum Analytical & Consulting, LLC

Asbestos Analytical Laboratory
(Air)

License Number: LA-0065

Expiration Date: 03/31/2023

ATTACHMENT C

Laboratory Reports

Hazardous Building Materials Inventory Morse
High School – 1941 and 1968 Additions
826 High Street
Bath, Maine



Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street
Portland ME 04101

Project Reference: 222.06056.201
Laboratory Batch #: 2346735
Date Samples Received: 04/13/2023
Date Samples Analyzed: 04/27/2023
Date of Final Report: 05/05/2023

SAMPLE IDENTIFICATION:

Two Hundred Two (202) samples from Morse High School, Bath, Maine project were submitted by Client on 04/13/2023

This bulk sample(s) was delivered to Optimum Analytical Consulting, LLC (Optimum) located in Salem, New Hampshire for asbestos content determination.

ANALYTICAL METHOD:

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter (<0.25µm) may not be detected by the PLM method. Floor tile and other resinous bound materials may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additionally, there is currently no approved EPA analytical method to reliably confirm vermiculite as non-asbestos containing. Additional analytical methods may be required. Optimum Analytical recommends using Transmission Electron Microscopy (TEM) or other approved methods for a more definitive analysis.

Optimum will retain all samples for a minimum of three months. Further analysis or return of samples must be requested within this three month period to guarantee their availability. This report may not be reproduced except in full, without the written approval of Optimum Analytical and Consulting, LLC.

The client/laboratory shall not use the NVLAP and AIHA Logo or this test report in a way that constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Point Count = .25%, 1000 Point Count = 0.1%; Present or Absent are observations made during a qualitative analysis.

This report is considered preliminary until signed by both the Laboratory Analyst and Laboratory Director or Supervisor. If you have any questions regarding this report, please do not hesitate to contact us.

Jamie L. Noel
Laboratory Director



OPTIMUM

Analytical and Consulting, LLC

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

ORDER #: 2346735
PROJECT #: 222.06056.201
DATE COLLECTED: 04/07/2023
COLLECTED BY: Client
DATE RECEIVED: 04/13/2023
ANALYSIS DATE: 04/27/2023
REPORT DATE: 05/05/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-001 001A	Exterior vinyl frame windows and panels, 1968 addition Caulk, Light Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-002 001B	Exterior vinyl frame windows and panels, 1968 addition Caulk, Light Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-003 001C	Exterior vinyl frame windows and panels, 1968 addition Caulk, Light Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-004 002A	Exterior aluminum fram windows and security doors Caulk, Dark Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-005 002B	Exterior aluminum fram windows and security doors Caulk, Dark Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-006 002C	Exterior aluminum fram windows and security doors Caulk, Dark Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-007 003A	Exterior window insulation board openings Caulk, Brown	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-008 003B	Exterior window insulation board openings Caulk, Brown	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%



OPTIMUM

Analytical and Consulting, LLC

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

ORDER #: 2346735
PROJECT #: 222.06056.201
DATE COLLECTED: 04/07/2023
COLLECTED BY: Client
DATE RECEIVED: 04/13/2023
ANALYSIS DATE: 04/27/2023
REPORT DATE: 05/05/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-009 003C	Exterior window insulation board openings Caulk, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-010 004A	Exterior vinyl frame windows 1941 addition Caulk, White	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-011 004B	Exterior vinyl frame windows 1941 addition Caulk, White	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-012 004C	Exterior vinyl frame windows 1941 addition Caulk, White	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-013 005A	Exterior window insulation board openings Foam Board Insulation Coating, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 1% Fibrous Glass 8% Binder/Filler 91%
2346735-014 005B	Exterior window insulation board openings Foam Board Insulation Coating, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 1% Fibrous Glass 8% Binder/Filler 91%
2346735-015 005C	Exterior window insulation board openings Foam Board Insulation Coating, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 1% Fibrous Glass 8% Binder/Filler 91%
2346735-016 006A	Shop, second floor, third floor 12"x12" Floor Tile, Dark Blue	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%



OPTIMUM

Analytical and Consulting, LLC

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

ORDER #: 2346735
PROJECT #: 222.06056.201
DATE COLLECTED: 04/07/2023
COLLECTED BY: Client
DATE RECEIVED: 04/13/2023
ANALYSIS DATE: 04/27/2023
REPORT DATE: 05/05/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-017 006B	Shop, second floor, third floor 12"x12" Floor Tile, Dark Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-018 006C	Shop, second floor, third floor 12"x12" Floor Tile, Dark Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-019 007A	Shop, second floor, third floor 12"x12" Floor Tile Mastic, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-020 007B	Shop, second floor, third floor 12"x12" Floor Tile Mastic, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-021 007C	Shop, second floor, third floor 12"x12" Floor Tile Mastic, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-022 008A	Shop restrooms 12"x12" Floor Tile, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-023 008B	Shop restrooms 12"x12" Floor Tile, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-024 008C	Shop restrooms 12"x12" Floor Tile, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-025 009A	Shop restrooms Mastic, Tan Note: Insufficient amount of Mastic for Gravimetric Reduction.	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-026 009B	Shop restrooms Mastic, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%



OPTIMUM

Analytical and Consulting, LLC

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

ORDER #: 2346735
PROJECT #: 222.06056.201
DATE COLLECTED: 04/07/2023
COLLECTED BY: Client
DATE RECEIVED: 04/13/2023
ANALYSIS DATE: 04/27/2023
REPORT DATE: 05/05/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2346735-027 009C	Shop restrooms Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-028 010A	Throughout 9"x9" Floor Tile, White	LAYER 1 100%	Chrysotile	5.16%	Cellulose Fiber Binder/Filler	1% 93.84%
2346735-029 010B	Throughout 9"x9" Floor Tile, White Note: Positive Stop	LAYER 1 100%				
2346735-030 010C	Throughout 9"x9" Floor Tile, White Note: Positive Stop	LAYER 1 100%				
2346735-031 011A	Throughout Mastic, Black	LAYER 1 100%	Chrysotile	8.98%	Cellulose Fiber Binder/Filler	2% 89.02%
2346735-032 011B	Throughout Mastic, Black Note: Positive Stop	LAYER 1 100%				
2346735-033 011C	Throughout Mastic, Black Note: Positive Stop	LAYER 1 100%				
2346735-034 012A	Boys locker room Fibrous Insulation Board Backing, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	90% 10%
2346735-035 012B	Boys locker room Fibrous Insulation Board Backing, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	90% 10%
2346735-036 012C	Boys locker room Fibrous Insulation Board Backing, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	90% 10%



BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

ORDER #: 2346735
PROJECT #: 222.06056.201
DATE COLLECTED: 04/07/2023
COLLECTED BY: Client
DATE RECEIVED: 04/13/2023
ANALYSIS DATE: 04/27/2023
REPORT DATE: 05/05/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2346735-037 013A	Second floor, third floor #2 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-038 013B	Second floor, third floor #2 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-039 013C	Second floor, third floor #2 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-040 014A	Second floor, third floor #3 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-041 014B	Second floor, third floor #3 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-042 014C	Second floor, third floor #3 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-043 015A	Second and third floor classrooms 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-044 015B	Second and third floor classrooms 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-045 015C	Second and third floor classrooms 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-046 016A	Second and third floor classrooms Mastic, Tan/Black	LAYER 1 100%	Chrysotile	2.36%	Cellulose Fiber Binder/Filler	1% 96.64%



OPTIMUM

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BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-047 016B	Second and third floor classrooms Mastic, Tan/Black Note: Positive Stop	LAYER 1 100%		
2346735-048 016C	Second and third floor classrooms Mastic, Tan/Black Note: Positive Stop	LAYER 1 100%		
2346735-049 017A	Second floor hallway, room 123 12x12 Floor Tile, White/Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-050 017B	Second floor hallway, room 123 12x12 Floor Tile, White/Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-051 017C	Second floor hallway, room 123 12x12 Floor Tile, White/Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-052 018A	Second floor hallway, room 123 Mastic, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-053 018B	Second floor hallway, room 123 Mastic, Tan	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-054 018C	Second floor hallway, room 123 Mastic, Tan Note: Insufficient amount of Mastic for Gravimetric Reduction.	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-055 019A	Second floor, third floor #4 Blue 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-056 019B	Second floor, third floor #4 Blue 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-057 019C	Second floor, third floor #4 Blue 12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-058 020A	throughout Small Diameter Fitting Insulation, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 3% 15% 82%
2346735-059 020B	throughout Small Diameter Fitting Insulation, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 3% 15% 82%
2346735-060 020C	throughout Small Diameter Fitting Insulation, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 3% 15% 82%
2346735-061 021A	Throughout 1968 addition Plaster - Rough Coat, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-062 021B	Throughout 1968 addition Plaster - Rough Coat, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-063 021C	Throughout 1968 addition Plaster - Rough Coat, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-064 021D	Throughout 1968 addition Plaster - Rough Coat, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-065 021E	Throughout 1968 addition Plaster - Rough Coat, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-066 021F	Throughout 1968 addition Plaster - Rough Coat, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-067 021G	Throughout 1968 addition Plaster - Rough Coat, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-068 022A	Throughout 1968 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-069 022B	Throughout 1968 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-070 022C	Throughout 1968 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-071 022D	Throughout 1968 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-072 022E	Throughout 1968 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-073 022F	Throughout 1968 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-074 022G	Throughout 1968 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2346735-075 023A	Throughout 1968 additon Drywall, Gray/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2346735-076 023B	Throughout 1968 additon Drywall, Gray/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2346735-077 023C	Throughout 1968 additon Drywall, Gray/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2346735-078 024A	Throughout 1968 additon Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-079 024B	Throughout 1968 additon Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-080 024C	Throughout 1968 additon Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-081 025A	adjacent to construction shop Mastic, Black Note: Insufficient amount of Mastic for Gravimetric Reduction.	LAYER 1 100%	Chrysotile	2%	Cellulose Fiber Binder/Filler	1% 97%
2346735-082 025B	adjacent to construction shop Mastic, Black Note: Positive Stop	LAYER 1 100%				
2346735-083 025C	adjacent to construction shop Mastic, Black Note: Positive Stop	LAYER 1 100%				



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-084 026A	library, career center, alumni room, room 13, throughout second floor 2'x2' Ceiling Tiles, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-085 026B	library, career center, alumni room, room 13, throughout second floor 2'x2' Ceiling Tiles, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-086 026C	library, career center, alumni room, room 13, throughout second floor 2'x2' Ceiling Tiles, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-087 027A	Above 2'x2' ceiling tiles in room 13 and alumni room 1'x1' Ceiling Tiles, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 3% Mineral Wool 85% Binder/Filler 12%
2346735-088 027B	Above 2'x2' ceiling tiles in room 13 and alumni room 1'x1' Ceiling Tiles, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 3% Mineral Wool 85% Binder/Filler 12%
2346735-089 027C	Above 2'x2' ceiling tiles in room 13 and alumni room 1'x1' Ceiling Tiles, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 3% Mineral Wool 85% Binder/Filler 12%
2346735-090 028A	Throughout first and second floor 1968 addition 2'x4' Ceiling Tile, Type 1, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%



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BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-091 028B	Throughout first and second floor 1968 addition 2'x4' Ceiling Tile, Type 1, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-092 028C	Throughout first and second floor 1968 addition 2'x4' Ceiling Tile, Type 1, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-093 029A	Throughout first floor 2'x4' Ceiling Tile, Type 2, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-094 029B	Throughout first floor 2'x4' Ceiling Tile, Type 2, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-095 029C	Throughout first floor 2'x4' Ceiling Tile, Type 2, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-096 030A	Throughout first floor 2'x4' Ceiling Tile, Type 3, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-097 030B	Throughout first floor 2'x4' Ceiling Tile, Type 3, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-098 030C	Throughout first floor 2'x4' Ceiling Tile, Type 3, Gray/White	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2346735-099 031A	first floor admin office wall panels Mastic, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-100 031B	first floor admin office wall panels Mastic, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-101 031C	first floor admin office wall panels Mastic, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-102 032A	9"x9" floor tiles throughout Mastic, Black	LAYER 1 100%	Chrysotile	4.53%	Cellulose Fiber Binder/Filler	2% 93.47%
2346735-103 032B	9"x9" floor tiles throughout Mastic, Black Note: Positive Stop	LAYER 1 100%				
2346735-104 032C	9"x9" floor tiles throughout Mastic, Black Note: Positive Stop	LAYER 1 100%				
2346735-105 033A	second floor hallways Floor Leveling Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-106 033B	second floor hallways Floor Leveling Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-107 033C	second floor hallways Floor Leveling Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-108 034A	Gym Gym Floor Underlayment, Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	95% 5%



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2346735-109 034B	Gym Gym Floor Underlayment, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 95% Binder/Filler 5%
2346735-110 034C	Gym Gym Floor Underlayment, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 95% Binder/Filler 5%
2346735-111 035A	Library and career center Carpet Mastic, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-112 035B	Library and career center Carpet Mastic, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-113 035C	Library and career center Carpet Mastic, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-114 036A	Throughout Large Diameter Fittings, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 5% Mineral Wool 20% Binder/Filler 75%
2346735-115 036B	Throughout Large Diameter Fittings, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 5% Mineral Wool 20% Binder/Filler 75%
2346735-116 036C	Throughout Large Diameter Fittings, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 5% Mineral Wool 20% Binder/Filler 75%
2346735-117 037A	Library 12"x12" Floor Tile, Red	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-118 037B	Library 12"x12" Floor Tile, Red	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-119 037C	Library 12"x12" Floor Tile, Red	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-120 038A	Library 12"x12" Floor Tile, Beige	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-121 038B	Library 12"x12" Floor Tile, Beige	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-122 038C	Library 12"x12" Floor Tile, Beige	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-123 039A	Library Mastic, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-124 039B	Library Mastic, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-125 039C	Library Mastic, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-126 040A	Band room 12"x12" Acoustic Ceiling Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 2% Mineral Wool 45% Binder/Filler 53%



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2346735-127 040B	Band room 12"x12" Acoustic Ceiling Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 2% Mineral Wool 45% Binder/Filler 53%
2346735-128 040C	Band room 12"x12" Acoustic Ceiling Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 2% Mineral Wool 45% Binder/Filler 53%
2346735-129 041A	1941 hallways, classrooms Jute Backed Linoleum, Gray/Brown	LAYER 1 100%	None Detected	Cellulose Fiber 5% Binder/Filler 95%
2346735-130 041B	1941 hallways, classrooms Jute Backed Linoleum, Red/Brown	LAYER 1 100%	None Detected	Cellulose Fiber 5% Binder/Filler 95%
2346735-131 041C	1941 hallways, classrooms Jute Backed Linoleum, Gray/Brown	LAYER 1 100%	None Detected	Cellulose Fiber 5% Binder/Filler 95%
2346735-132 042A	1941 hallways Pebble Pattern Floor Tile, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-133 042B	1941 hallways Pebble Pattern Floor Tile, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-134 042C	1941 hallways Pebble Pattern Floor Tile, Tan	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-135 043A	1941 hallways 12"x12" Ceiling Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 45% Fibrous Glass 20% Binder/Filler 35%



BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

ORDER #: 2346735
PROJECT #: 222.06056.201
DATE COLLECTED: 04/07/2023
COLLECTED BY: Client
DATE RECEIVED: 04/13/2023
ANALYSIS DATE: 04/27/2023
REPORT DATE: 05/05/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-136 043B	1941 hallways 12"x12" Ceiling Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 45% Fibrous Glass 20% Binder/Filler 35%
2346735-137 043C	1941 hallways 12"x12" Ceiling Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 45% Fibrous Glass 20% Binder/Filler 35%
2346735-138 044A	1941 hallways Glue Daubs, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-139 044B	1941 hallways Glue Daubs, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-140 044C	1941 hallways Glue Daubs, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-141 5	1941 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-142 045B	1941 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-143 045C	1941 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%
2346735-144 045D	1941 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber 1% Binder/Filler 99%



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2346735-145 045E	1941 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-146 045F	1941 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-147 045G	1941 addition Plaster - Skim Coat, White	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-148 046A	1941 addition Plaster - Rough Coat, Beige	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-149 046B	1941 addition Plaster - Rough Coat, Beige	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-150 046C	1941 addition Plaster - Rough Coat, Beige	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-151 046D	1941 addition Plaster - Rough Coat, Beige	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-152 046E	1941 addition Plaster - Rough Coat, Beige	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-153 046F	1941 addition Plaster - Rough Coat, Beige	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%
2346735-154 046G	1941 addition Plaster - Rough Coat, Beige	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 5% 95%



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-155 047A	band room closets, first floor 12"x12" Wall Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-156 047B	band room closets, first floor 12"x12" Wall Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-157 047C	band room closets, first floor 12"x12" Wall Tile, White/Gray	LAYER 1 100%	None Detected	Cellulose Fiber 65% Fibrous Glass 15% Binder/Filler 20%
2346735-158 048A	band room closets, first floor Glue Daubs, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 3% Binder/Filler 97%
2346735-159 048B	band room closets, first floor Glue Daubs, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 3% Binder/Filler 97%
2346735-160 048C	band room closets, first floor Glue Daubs, Brown	LAYER 1 100%	None Detected	Cellulose Fiber 3% Binder/Filler 97%
2346735-161 049A	First floor band room closets 9"x9" Floor Tile, Green	LAYER 1 100%	Chrysotile 3.48%	Cellulose Fiber 1% Binder/Filler 95.52%
2346735-162 049B	First floor band room closets 9"x9" Floor Tile, Green Note: Positive Stop	LAYER 1 100%		
2346735-163 049C	First floor band room closets 9"x9" Floor Tile, Green Note: Positive Stop	LAYER 1 100%		



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DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2346735-164 050A	First floor band room closets Mastic, Black	LAYER 1 100%	Chrysotile	6.9%	Cellulose Fiber Binder/Filler	2% 91.1%
2346735-165 050B	First floor band room closets Mastic, Black Note: Positive Stop	LAYER 1 100%				
2346735-166 050C	First floor band room closets Mastic, Black Note: Positive Stop	LAYER 1 100%				
2346735-167 051A	Throughout 9"x9" Floor Tile, Brown	LAYER 1 100%	Chrysotile	5.05%	Cellulose Fiber Binder/Filler	1% 93.95%
2346735-168 051B	Throughout 9"x9" Floor Tile, Brown Note: Positive Stop	LAYER 1 100%				
2346735-169 051C	Throughout 9"x9" Floor Tile, Brown Note: Positive Stop	LAYER 1 100%				
2346735-170 052A	first floor rooms 142, 146, 147, teacher's room 9"x9" Floor Tile, Gray	LAYER 1 100%	Chrysotile	3.74%	Cellulose Fiber Binder/Filler	1% 95.26%
2346735-171 052B	first floor rooms 142, 146, 147, teacher's room 9"x9" Floor Tile, Gray Note: Positive Stop	LAYER 1 100%				
2346735-172 052C	first floor rooms 142, 146, 147, teacher's room 9"x9" Floor Tile, Gray Note: Positive Stop	LAYER 1 100%				



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PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

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CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Morse High School, Bath, Maine

ORDER #: 2346735
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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2346735-173 053A	first floor, room 149 9"x9" Floor Tile, Red	LAYER 1 100%	Chrysotile	2.86%	Cellulose Fiber Binder/Filler	1% 96.14%
2346735-174 053B	first floor, room 149 9"x9" Floor Tile, Red Note: Positive Stop	LAYER 1 100%				
2346735-175 053C	first floor, room 149 9"x9" Floor Tile, Red Note: Positive Stop	LAYER 1 100%				
2346735-176 054A	First floor rooms 135, 136, 136B, 138, 140, 133 9"x9" Floor Tile, White	LAYER 1 100%	Chrysotile	2.36%	Cellulose Fiber Binder/Filler	1% 96.64%
2346735-177 054B	First floor rooms 135, 136, 136B, 138, 140, 133 9"x9" Floor Tile, White Note: Positive Stop	LAYER 1 100%				
2346735-178 054C	First floor rooms 135, 136, 136B, 138, 140, 133 9"x9" Floor Tile, White Note: Positive Stop	LAYER 1 100%				
2346735-179 055A	1968 roof Rubber Membrane, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-180 055B	1968 roof Rubber Membrane, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2346735-181 055C	1968 roof Rubber Membrane, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%



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BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-182 055D	1968 roof Rubber Membrane, Black	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-183 056A	1968 roof Foam Board, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-184 056B	1968 roof Foam Board, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-185 056C	1968 roof Foam Board, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-186 056D	1968 roof Foam Board, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-187 057A	1968 roof Paper Backing on Foam Board, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 85% 10% 5%
2346735-188 057B	1968 roof Paper Backing on Foam Board, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 85% 10% 5%
2346735-189 057C	1968 roof Paper Backing on Foam Board, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 85% 10% 5%
2346735-190 057D	1968 roof Paper Backing on Foam Board, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 85% 10% 5%



BULK SAMPLE ANALYSIS REPORT POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-191 058A	1941 roof Rubber Membrane, Black	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-192 058B	1941 roof Rubber Membrane, Black	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-193 058C	1941 roof Rubber Membrane - Not Present,	LAYER 1 100%		
2346735-194 059A	1941 roof Pressed Fiber Board, Brown	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 98% 2%
2346735-195 059B	1941 roof Pressed Fiber Board, Brown	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 98% 2%
2346735-196 059C	1941 roof Pressed Fiber Board, Brown	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 98% 2%
2346735-197 060A	1941 roof Foam Board, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-198 060B	1941 roof Foam Board, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-199 060C	1941 roof Foam Board, Yellow	LAYER 1 100%	None Detected	Cellulose Fiber Binder/Filler 1% 99%
2346735-200 061A	1941 roof Paper Backing on Foam Board, Gray	LAYER 1 100%	None Detected	Cellulose Fiber Fibrous Glass Binder/Filler 85% 10% 5%



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Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type (%)	Non-Asbestos Components (%)
2346735-201 061B	1941 roof Paper Backing on Foam Board, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 85% Fibrous Glass 10% Binder/Filler 5%
2346735-202 061C	1941 roof Paper Backing on Foam Board, Gray	LAYER 1 100%	None Detected	Cellulose Fiber 85% Fibrous Glass 10% Binder/Filler 5%

Gravimetric reduction performed on all NOBs unless otherwise indicated.

Analyst Signatory: 
 Jamie Noel



2346 735

Client Ransom Consulting, Inc. 400 Commercial St Portland ME 04101
 Contact Erik Phenix, Wes Harden
 Phone 207-772-2891
 Project Morse High School
 Location Bath, Maine
 Ransom Client City of Bath
 Ransom Project # 222.06056.201
 Sample Date 4/7/2023
 Analysis Bulk PLM w/GRM prep for NOB in accordance w/MEDEP
 TAT standard
 Report Results to: ephenix@ransomenv.com, wes.harden@ransomenv.com
 PO 6154
 Notes/Requests Positive stop

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Sample ID	Material	Location
001A	Light gray caulk	Exterior vinyl frame windows and panels, 1968 addition
001B	Light gray caulk	Exterior vinyl frame windows and panels, 1968 addition
001C	Light gray caulk	Exterior vinyl frame windows and panels, 1968 addition
002A	Dark gray caulk	Exterior aluminum fram windows and security doors
002B	Dark gray caulk	Exterior aluminum fram windows and security doors
002C	Dark gray caulk	Exterior aluminum fram windows and security doors
003A	Brown caulk	Exterior window insulation board openings
003B	Brown caulk	Exterior window insulation board openings
003C	Brown caulk	Exterior window insulation board openings
004A	White caulk	Exterior vinyl frame windows 1941 addition
004B	White caulk	Exterior vinyl frame windows 1941 addition
004C	White caulk	Exterior vinyl frame windows 1941 addition
005A	Gray foam board insulation coating	Exterior window insulation board openings
005B	Gray foam board insulation coating	Exterior window insulation board openings
005C	Gray foam board insulation coating	Exterior window insulation board openings
006A	#1 Dark blue 12"x12" floor tile	Shop, second floor, third floor
006B	#1 Dark blue 12"x12" floor tile	Shop, second floor, third floor
006C	#1 Dark blue 12"x12" floor tile	Shop, second floor, third floor
007A	Tan mastic associated with 006ABC	Shop, second floor, third floor
007B	Tan mastic associated with 006ABC	Shop, second floor, third floor
007C	Tan mastic associated with 006ABC	Shop, second floor, third floor
008A	White with gray streak 12"x12" floor tile	Shop restrooms
008B	White with gray streak 12"x12" floor tile	Shop restrooms
008C	White with gray streak 12"x12" floor tile	Shop restrooms
009A	tan mastic associated with 009ABC	Shop restrooms
009B	tan mastic associated with 009ABC	Shop restrooms
009C	tan mastic associated with 009ABC	Shop restrooms
010A	White 9"x9" floor tile	Throughout
010B	White 9"x9" floor tile	Throughout
010C	White 9"x9" floor tile	Throughout
011A	Black mastic associated with 010ABC	Throughout
011B	Black mastic associated with 010ABC	Throughout
011C	Black mastic associated with 010ABC	Throughout
012A	Fibrous insulation board backing	Boys locker room
012B	Fibrous insulation board backing	Boys locker room
012C	Fibrous insulation board backing	Boys locker room
013A	#2 blue 12"x12" floor tile	Second floor, third floor
013B	#2 blue 12"x12" floor tile	Second floor, third floor
013C	#2 blue 12"x12" floor tile	Second floor, third floor
014A	#3 blue 12"x12" floor tile	Second floor, third floor
014B	#3 blue 12"x12" floor tile	Second floor, third floor
014C	#3 blue 12"x12" floor tile	Second floor, third floor
015A	White with tan fleck 12"x12" floor tile	Second and third floor classrooms
015B	White with tan fleck 12"x12" floor tile	Second and third floor classrooms
015C	White with tan fleck 12"x12" floor tile	Second and third floor classrooms
016A	Mastic associated with 015ABC	Second and third floor classrooms
016B	Mastic associated with 015ABC	Second and third floor classrooms
016C	Mastic associated with 015ABC	Second and third floor classrooms
017A	White with blue fleck 12"x12" floor tile	Second floor hallway, room 123
017B	White with blue fleck 12"x12" floor tile	Second floor hallway, room 123
017C	White with blue fleck 12"x12" floor tile	Second floor hallway, room 123
018A	Mastic associated with 017ABC	Second floor hallway, room 123
018B	Mastic associated with 017ABC	Second floor hallway, room 123

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018C	Mastic associated with 017ABC	Second floor hallway, room 123
019A	#4 blue 12"x12" floor tile	Second floor, third floor
019B	#4 blue 12"x12" floor tile	Second floor, third floor
019C	#4 blue 12"x12" floor tile	Second floor, third floor
020A	Small diameter fitting insulation	throughout
020B	Small diameter fitting insulation	throughout
020C	Small diameter fitting insulation	throughout
021A	Plaster - rough coat	Throughout 1968 addition
021B	Plaster - rough coat	Throughout 1968 addition
021C	Plaster - rough coat	Throughout 1968 addition
021D	Plaster - rough coat	Throughout 1968 addition
021E	Plaster - rough coat	Throughout 1968 addition
021F	Plaster - rough coat	Throughout 1968 addition
021G	Plaster - rough coat	Throughout 1968 addition
022A	Plaster - skim coat	Throughout 1968 addition
022B	Plaster - skim coat	Throughout 1968 addition
022C	Plaster - skim coat	Throughout 1968 addition
022D	Plaster - skim coat	Throughout 1968 addition
022E	Plaster - skim coat	Throughout 1968 addition
022F	Plaster - skim coat	Throughout 1968 addition
022G	Plaster - skim coat	Throughout 1968 addition
023A	Drywall	Throughout 1968 addition
023B	Drywall	Throughout 1968 addition
023C	Drywall	Throughout 1968 addition
024A	Joint compound	Throughout 1968 addition
024B	Joint compound	Throughout 1968 addition
024C	Joint compound	Throughout 1968 addition
025A	Black mastic	adjacent to construction shop
025B	Black mastic	adjacent to construction shop
025C	Black mastic	adjacent to construction shop
026A	2'x2' ceiling tiles	library, career center, alumni room, room 13, throughout second floor
026B	2'x2' ceiling tiles	library, career center, alumni room, room 13, throughout second floor
026C	2'x2' ceiling tiles	library, career center, alumni room, room 13, throughout second floor
027A	1'x1' ceiling tiles	Above 2'x2' ceiling tiles in room 13 and alumni room
027B	1'x1' ceiling tiles	Above 2'x2' ceiling tiles in room 13 and alumni room
027C	1'x1' ceiling tiles	Above 2'x2' ceiling tiles in room 13 and alumni room
028A	2'x4' ceiling tile, type 1	Throughout first and second floor 1968 addition
028B	2'x4' ceiling tile, type 1	Throughout first and second floor 1968 addition
028C	2'x4' ceiling tile, type 1	Throughout first and second floor 1968 addition
029A	2'x4' ceiling tile, type 2	Throughout first floor
029B	2'x4' ceiling tile, type 2	Throughout first floor
029C	2'x4' ceiling tile, type 2	Throughout first floor
030A	2'x4' ceiling tile, type 3	Throughout first floor
030B	2'x4' ceiling tile, type 3	Throughout first floor
030C	2'x4' ceiling tile, type 3	Throughout first floor
031A	Tan mastic	first floor admin office wall panels
031B	Tan mastic	first floor admin office wall panels
031C	Tan mastic	first floor admin office wall panels
032A	Black mastic	9"x9" floor tiles throughout
032B	Black mastic	9"x9" floor tiles throughout
032C	Black mastic	9"x9" floor tiles throughout
033A	Floor leveling compound	second floor hallways
033B	Floor leveling compound	second floor hallways
033C	Floor leveling compound	second floor hallways
034A	Gym floor underlayment	Gym
034B	Gym floor underlayment	Gym
034C	Gym floor underlayment	Gym
035A	Carpet mastic - yellow	Library and career center
035B	Carpet mastic - yellow	Library and career center
035C	Carpet mastic - yellow	Library and career center
036A	Large diameter fittings	Throughout
036B	Large diameter fittings	Throughout
036C	Large diameter fittings	Throughout
037A	Red 12"x12" floor tile	Library
037B	Red 12"x12" floor tile	Library
037C	Red 12"x12" floor tile	Library
038A	gray with white fleck 12"x12" floor tile	Library
038B	gray with white fleck 12"x12" floor tile	Library
038C	gray with white fleck 12"x12" floor tile	Library
039A	Yellow mastic associated with 037ABC and 038ABC	Library

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039B	Yellow mastic associated with 037ABC and 038ABC	Library
039C	Yellow mastic associated with 037ABC and 038ABC	Library
040A	12"x12" acoustic tile	Band room
040B	12"x12" acoustic tile	Band room
040C	12"x12" acoustic tile	Band room
041A	Jute backed linoleum	1941 hallways, classrooms
041B	Jute backed linoleum	1941 hallways, classrooms
041C	Jute backed linoleum	1941 hallways, classrooms
042A	Pebble pattern floor tile	1941 hallways
042B	Pebble pattern floor tile	1941 hallways
042C	Pebble pattern floor tile	1941 hallways
043A	White 12"x12" ceiling tile	1941 hallways
043B	White 12"x12" ceiling tile	1941 hallways
043C	White 12"x12" ceiling tile	1941 hallways
044A	Brown glue daubs associated with 043ABC	1941 hallways
044B	Brown glue daubs associated with 043ABC	1941 hallways
044C	Brown glue daubs associated with 043ABC	1941 hallways
045A	Plaster - skim coat	1941 addition
045B	Plaster - skim coat	1941 addition
045C	Plaster - skim coat	1941 addition
045D	Plaster - skim coat	1941 addition
045E	Plaster - skim coat	1941 addition
045F	Plaster - skim coat	1941 addition
045G	Plaster - skim coat	1941 addition
046A	Plaster - rough coat	1941 addition
046B	Plaster - rough coat	1941 addition
046C	Plaster - rough coat	1941 addition
046D	Plaster - rough coat	1941 addition
046E	Plaster - rough coat	1941 addition
046F	Plaster - rough coat	1941 addition
046G	Plaster - rough coat	1941 addition
047A	12"x12" wall tile	band room closets, first floor
047B	12"x12" wall tile	band room closets, first floor
047C	12"x12" wall tile	band room closets, first floor
048A	Brown glue daubs associated with 047ABC	band room closets, first floor
048B	Brown glue daubs associated with 047ABC	band room closets, first floor
048C	Brown glue daubs associated with 047ABC	band room closets, first floor
049A	Green 9"x9" floor tile	First floor band room closets
049B	Green 9"x9" floor tile	First floor band room closets
049C	Green 9"x9" floor tile	First floor band room closets
050A	Black mastic associated with 049ABC	First floor band room closets
050B	Black mastic associated with 049ABC	First floor band room closets
050C	Black mastic associated with 049ABC	First floor band room closets
051A	Brown 9"x9" floor tile	Throughout
051B	Brown 9"x9" floor tile	Throughout
051C	Brown 9"x9" floor tile	Throughout
052A	Gray with white fleck 9"x9" floor tile	first floor rooms 142, 146, 147, teacher's room
052B	Gray with white fleck 9"x9" floor tile	first floor rooms 142, 146, 147, teacher's room
052C	Gray with white fleck 9"x9" floor tile	first floor rooms 142, 146, 147, teacher's room
053A	Red 9"x9" floor tile	first floor, room 149
053B	Red 9"x9" floor tile	first floor, room 149
053C	Red 9"x9" floor tile	first floor, room 149
054A	White 9"x9" floor tile	First floor rooms 135, 136, 136B, 138, 140, 133
054B	White 9"x9" floor tile	First floor rooms 135, 136, 136B, 138, 140, 133
054C	White 9"x9" floor tile	First floor rooms 135, 136, 136B, 138, 140, 133
055A	Black rubber membrane	1968 roof
055B	Black rubber membrane	1968 roof
055C	Black rubber membrane	1968 roof
055D	Black rubber membrane	1968 roof
056A	yellow foam board	1968 roof
056B	yellow foam board	1968 roof
056C	yellow foam board	1968 roof
056D	yellow foam board	1968 roof
057A	gray paper backing on foam board	1968 roof
057B	gray paper backing on foam board	1968 roof
057C	gray paper backing on foam board	1968 roof
057D	gray paper backing on foam board	1968 roof
058A	Black rubber membrane	1941 roof
058B	Black rubber membrane	1941 roof
058C	Black rubber membrane	1941 roof

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059A	pressed fiber board	1941 roof
059B	pressed fiber board	1941 roof
059C	pressed fiber board	1941 roof
060A	yellow foam board	1941 roof
060B	yellow foam board	1941 roof
060C	yellow foam board	1941 roof
061A	gray paper backing on foam board	1941 roof
061B	gray paper backing on foam board	1941 roof
061C	gray paper backing on foam board	1941 roof
>>>		

 4-12-23


4/13/23

9:10



ANALYTICAL REPORT

Lab Number:	L2318879
Client:	Ransom Consulting, LLC. 400 Commercial Street Suite 404 Portland, ME 04101-4660
ATTN:	Steve Dyer
Phone:	(207) 772-2891
Project Name:	FORMER MORSE HIGH SCHOOL
Project Number:	222.06056.201
Report Date:	04/17/23

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2318879-01	PCB-1	SOLID	BATH, ME	04/06/23 08:55	04/10/23
L2318879-02	PCB-2	SOLID	BATH, ME	04/06/23 10:05	04/10/23
L2318879-03	PCB-3	SOLID	BATH, ME	04/06/23 10:10	04/10/23
L2318879-04	PCB-4	SOLID	BATH, ME	04/06/23 09:25	04/10/23
L2318879-05	PCB-5	SOLID	BATH, ME	04/06/23 10:05	04/10/23
L2318879-06	PCB-6	SOLID	BATH, ME	04/06/23 15:20	04/10/23
L2318879-07	PCB-DUP	SOLID	BATH, ME	04/06/23 10:15	04/10/23

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

Case Narrative (continued)

PCBs

L2318879-05: The sample has elevated detection limits due to limited sample volume available for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  - Tiffani Morrissey

Title: Technical Director/Representative

Date: 04/17/23

ORGANICS

PCBS

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2318879-01
 Client ID: PCB-1
 Sample Location: BATH, ME

Date Collected: 04/06/23 08:55
 Date Received: 04/10/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Solid
 Analytical Method: 1,8082A
 Analytical Date: 04/14/23 11:41
 Analyst: MEO
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
 Extraction Date: 04/12/23 11:45
 Cleanup Method: EPA 3630
 Cleanup Date: 04/13/23
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/14/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	660	--	1	A
Aroclor 1221	ND		ug/kg	660	--	1	A
Aroclor 1232	ND		ug/kg	660	--	1	A
Aroclor 1242	ND		ug/kg	330	--	1	A
Aroclor 1248	ND		ug/kg	660	--	1	A
Aroclor 1254	ND		ug/kg	660	--	1	A
Aroclor 1260	ND		ug/kg	660	--	1	A
Aroclor 1262	ND		ug/kg	660	--	1	A
Aroclor 1268	ND		ug/kg	330	--	1	A
PCBs, Total	ND		ug/kg	330	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	92		30-150	A
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	91		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2318879-02
 Client ID: PCB-2
 Sample Location: BATH, ME

Date Collected: 04/06/23 10:05
 Date Received: 04/10/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Solid
 Analytical Method: 1,8082A
 Analytical Date: 04/14/23 11:49
 Analyst: MEO
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
 Extraction Date: 04/12/23 11:45
 Cleanup Method: EPA 3630
 Cleanup Date: 04/13/23
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/14/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	617	--	1	A
Aroclor 1221	ND		ug/kg	617	--	1	A
Aroclor 1232	ND		ug/kg	617	--	1	A
Aroclor 1242	ND		ug/kg	309	--	1	A
Aroclor 1248	ND		ug/kg	617	--	1	A
Aroclor 1254	ND		ug/kg	617	--	1	A
Aroclor 1260	ND		ug/kg	617	--	1	A
Aroclor 1262	ND		ug/kg	617	--	1	A
Aroclor 1268	ND		ug/kg	309	--	1	A
PCBs, Total	ND		ug/kg	309	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	87		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2318879-03
 Client ID: PCB-3
 Sample Location: BATH, ME

Date Collected: 04/06/23 10:10
 Date Received: 04/10/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Solid
 Analytical Method: 1,8082A
 Analytical Date: 04/14/23 11:57
 Analyst: MEO
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
 Extraction Date: 04/12/23 11:45
 Cleanup Method: EPA 3630
 Cleanup Date: 04/13/23
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/14/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	562	--	1	A
Aroclor 1221	ND		ug/kg	562	--	1	A
Aroclor 1232	ND		ug/kg	562	--	1	A
Aroclor 1242	ND		ug/kg	281	--	1	A
Aroclor 1248	ND		ug/kg	562	--	1	A
Aroclor 1254	ND		ug/kg	562	--	1	A
Aroclor 1260	ND		ug/kg	562	--	1	A
Aroclor 1262	ND		ug/kg	562	--	1	A
Aroclor 1268	ND		ug/kg	281	--	1	A
PCBs, Total	ND		ug/kg	281	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	86		30-150	B
Decachlorobiphenyl	86		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2318879-04
 Client ID: PCB-4
 Sample Location: BATH, ME

Date Collected: 04/06/23 09:25
 Date Received: 04/10/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Solid
 Analytical Method: 1,8082A
 Analytical Date: 04/14/23 12:05
 Analyst: MEO
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
 Extraction Date: 04/12/23 11:45
 Cleanup Method: EPA 3630
 Cleanup Date: 04/13/23
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/14/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	631	--	1	A
Aroclor 1221	ND		ug/kg	631	--	1	A
Aroclor 1232	ND		ug/kg	631	--	1	A
Aroclor 1242	ND		ug/kg	315	--	1	A
Aroclor 1248	ND		ug/kg	631	--	1	A
Aroclor 1254	ND		ug/kg	631	--	1	A
Aroclor 1260	ND		ug/kg	631	--	1	B
Aroclor 1262	ND		ug/kg	631	--	1	A
Aroclor 1268	ND		ug/kg	315	--	1	A
PCBs, Total	ND		ug/kg	315	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2318879-05
 Client ID: PCB-5
 Sample Location: BATH, ME

Date Collected: 04/06/23 10:05
 Date Received: 04/10/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Solid
 Analytical Method: 1,8082A
 Analytical Date: 04/14/23 12:13
 Analyst: MEO
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
 Extraction Date: 04/12/23 11:45
 Cleanup Method: EPA 3630
 Cleanup Date: 04/13/23
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/14/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	980	--	1	A
Aroclor 1221	ND		ug/kg	980	--	1	A
Aroclor 1232	ND		ug/kg	980	--	1	A
Aroclor 1242	ND		ug/kg	490	--	1	A
Aroclor 1248	ND		ug/kg	980	--	1	A
Aroclor 1254	6360		ug/kg	980	--	1	B
Aroclor 1260	ND		ug/kg	980	--	1	A
Aroclor 1262	ND		ug/kg	980	--	1	A
Aroclor 1268	ND		ug/kg	490	--	1	A
PCBs, Total	6360		ug/kg	490	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	90		30-150	A
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	91		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2318879-06
 Client ID: PCB-6
 Sample Location: BATH, ME

Date Collected: 04/06/23 15:20
 Date Received: 04/10/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Solid
 Analytical Method: 1,8082A
 Analytical Date: 04/14/23 12:21
 Analyst: MEO
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
 Extraction Date: 04/12/23 11:45
 Cleanup Method: EPA 3630
 Cleanup Date: 04/13/23
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/14/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	562	--	1	A
Aroclor 1221	ND		ug/kg	562	--	1	A
Aroclor 1232	ND		ug/kg	562	--	1	A
Aroclor 1242	ND		ug/kg	281	--	1	A
Aroclor 1248	ND		ug/kg	562	--	1	A
Aroclor 1254	7340		ug/kg	562	--	1	B
Aroclor 1260	ND		ug/kg	562	--	1	A
Aroclor 1262	ND		ug/kg	562	--	1	A
Aroclor 1268	ND		ug/kg	281	--	1	A
PCBs, Total	7340		ug/kg	281	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	98		30-150	A
2,4,5,6-Tetrachloro-m-xylene	95		30-150	B
Decachlorobiphenyl	98		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2318879-07
 Client ID: PCB-DUP
 Sample Location: BATH, ME

Date Collected: 04/06/23 10:15
 Date Received: 04/10/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Solid
 Analytical Method: 1,8082A
 Analytical Date: 04/14/23 12:29
 Analyst: MEO
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
 Extraction Date: 04/12/23 11:45
 Cleanup Method: EPA 3630
 Cleanup Date: 04/13/23
 Cleanup Method: EPA 3665A
 Cleanup Date: 04/14/23
 Cleanup Method: EPA 3660B
 Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	635	--	1	A
Aroclor 1221	ND		ug/kg	635	--	1	A
Aroclor 1232	ND		ug/kg	635	--	1	A
Aroclor 1242	ND		ug/kg	317	--	1	A
Aroclor 1248	ND		ug/kg	635	--	1	A
Aroclor 1254	ND		ug/kg	635	--	1	A
Aroclor 1260	ND		ug/kg	635	--	1	A
Aroclor 1262	ND		ug/kg	635	--	1	A
Aroclor 1268	ND		ug/kg	317	--	1	A
PCBs, Total	ND		ug/kg	317	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	95		30-150	A
Decachlorobiphenyl	99		30-150	A
2,4,5,6-Tetrachloro-m-xylene	99		30-150	B
Decachlorobiphenyl	100		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 04/14/23 10:37
Analyst: MEO

Extraction Method: EPA 3540C
Extraction Date: 04/12/23 11:45
Cleanup Method: EPA 3630
Cleanup Date: 04/13/23
Cleanup Method: EPA 3665A
Cleanup Date: 04/14/23
Cleanup Method: EPA 3660B
Cleanup Date: 04/14/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-07 Batch: WG1765774-1						
Aroclor 1016	ND		ug/kg	631	--	A
Aroclor 1221	ND		ug/kg	631	--	A
Aroclor 1232	ND		ug/kg	631	--	A
Aroclor 1242	ND		ug/kg	315	--	A
Aroclor 1248	ND		ug/kg	631	--	A
Aroclor 1254	ND		ug/kg	631	--	A
Aroclor 1260	ND		ug/kg	631	--	A
Aroclor 1262	ND		ug/kg	631	--	A
Aroclor 1268	ND		ug/kg	315	--	A
PCBs, Total	ND		ug/kg	315	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	69		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER MORSE HIGH SCHOOL
Project Number: 222.06056.201

Lab Number: L2318879
Report Date: 04/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-07 Batch: WG1765774-2 WG1765774-3									
Aroclor 1016	74		80		40-140	8		50	A
Aroclor 1260	92		85		40-140	8		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		82		30-150	A
Decachlorobiphenyl	91		82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		84		30-150	B
Decachlorobiphenyl	90		82		30-150	B

Project Name: FORMER MORSE HIGH SCHOOL**Lab Number:** L2318879**Project Number:** 222.06056.201**Report Date:** 04/17/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2318879-01A	Plastic 2oz unpreserved for TS	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-01B	Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-02A	Plastic 2oz unpreserved for TS	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-02B	Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-03A	Plastic 2oz unpreserved for TS	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-03B	Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-04A	Plastic 2oz unpreserved for TS	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-04B	Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-05A	Plastic 2oz unpreserved for TS	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-05B	Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-06A	Plastic 2oz unpreserved for TS	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-06B	Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-07A	Plastic 2oz unpreserved for TS	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)
L2318879-07B	Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		PCB-8082-CAULK(365)

Project Name: FORMER MORSE HIGH SCHOOL**Lab Number:** L2318879**Project Number:** 222.06056.201**Report Date:** 04/17/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name: FORMER MORSE HIGH SCHOOL
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Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



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Data Qualifiers

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

