

AHERA Management Plan for Asbestos-Containing Building Materials

Dufur School
802 NE 5th Street
Dufur, Oregon 97021

Prepared for:
Dufur School District
802 NE 5th Street
Dufur, Oregon 97021

April 17, 2023
PBS Project 27425.000



4412 SW CORBETT AVENUE
PORTLAND, OREGON 97239
503.248.1939 MAIN
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How to Use This Plan

The AHERA Management Plan represents the combination of the Inspection Report with a game plan for responding to and maintaining the asbestos-containing materials in your buildings. It is a flexible document that you can easily update. It is designed based on an AHERA format and currently exceeds state and federal requirements for managing asbestos materials in commercial properties.

PBS Engineering and Environmental has developed this plan at the request of the Dufur School District. PBS has compiled this plan utilizing an asbestos survey work performed in January 2023. Limited records of previous inspections and abatement were also utilized by PBS in the creation of this document.

Background data is contained in TAB 1 through TAB 3. Modify these sections when personnel, building population or other information changes.

TECHNICAL INFORMATION

TAB 5 is the Inspection Report, the heart of the plan. Carefully study this section.

PBS's recommendations are found in TAB 6 and the accepted plan (Response Actions Selected) is in TAB 7.

Cost estimates and discussion of other costs for budgetary purposes are provided in TAB 8 and a graphic timeline schedule is in TAB 9.

The Operations and Maintenance (O&M) Program, both general and for specific materials in the buildings, is part of TAB 12.

RECORDKEEPING

The other tabs are for keeping records of a variety of management activities. Under each tab, there is a short description of the program and examples of forms. Store the various forms in these tabs.

TAB 7 Response Actions	TAB 14 Training
TAB 10 Periodic Surveillance	TAB 15 Plan Distribution and Notification
TAB 11 Re-inspections	TAB 16 Recordkeeping (General Information)
TAB 12 O&M Activities	TAB 13 Medical Surveillance

The last tab is a review section that ensures the Owner has approved the recommendations of the Management Plan and that all requirements have been met and will continue to be met. It must be signed by the Asbestos Program Coordinator.

The AHERA Management Plan is a document the Owner must continue to use and update. It is also an aid for the following activities:

- Identifying the need for and performing initial cleaning
- Learning to budget for asbestos activities
- Scheduling response actions
- Setting building asbestos policies
- Training your personnel
- Notifying affected parties
- Maintaining the asbestos-containing materials in-place
- Keeping records

The Dufur School District must adhere to the time schedule for the response actions and ensure all work is safely performed.

Remember this plan is not an encyclopedia of all facts related to asbestos, a recitation of all of the many rules and regulations associated with asbestos, or a substitute for training. It is a plan. Something to use as a guide and update as needed. Consult with key district personnel or outside consultants as budget concerns and changes in activities take place to assure your management plan is up to date. If the Management Plan is properly used, the Dufur School District will continue to benefit from its investment and the school will be a safe and healthful environment.

Recommended Reference Material

EPA DOCUMENTS

"Guidance for Controlling Asbestos Containing Materials in Buildings", U.S. Environmental Protection Agency, June 1985, (Purple Book)

"Asbestos In Schools: A Guide for New Federal Requirements for Local Education Agencies", U.S. Environmental Protection Agency, February 1988

FEDERAL REGULATIONS

AHERA Regulations

40 CFR Part 753, Subpart E

Oct. 30, 1987

Federal Register

Model Accreditation Plan
(Training)

40 CFR Part 763, Appendix C Subpart E

April 30, 1987

Federal Register

OSHA Regulations

29 CFR Part 1910 and 1926

June 20, 1986

Federal Register

Revised August 23, 1996

Key Addresses and Phone Numbers

REGULATORY AGENCIES

Environmental Protection Agency:

EPA Region 10
Asbestos Coordinator
1200 6th Avenue
Seattle, Washington 98101
206.553.4762

State Offices:

Oregon Department of Environmental Quality
4026 Fairview Industrial Drive SE
Salem, OR 97302
503.229.5696

Oregon OSHA
350 Winter St NE
Salem, OR 97301
503.229.5910

Oregon Department of Education
255 Capitol Street NE
Salem, OR 97310-0203
503.947.5600

TAB 1
General Data

1.1.1 General Information

DISTRICT DATA

SCHOOL DISTRICT	Dufur School District
TYPE OF DISTRICT	Public
DISTRICT ADDRESS	802 NE 5 th Street, Dufur, Oregon
DISTRICT PHONE	541.467.2509

SCHOOL DATA

SCHOOL NAME	Dufur School
SCHOOL ADDRESS	802 NE 5 th Street, Dufur, Oregon
NO. OF STUDENTS	380
GRADE LEVELS	Pre-K-12
ADMIN./FACULTY	2
NO. OF MAINTENANCE	4
NO. OF CUSTODIAL	4

1.2.1 Key Personnel

The following individuals have on-going responsibilities in developing and implementing the Asbestos Program. Their general responsibilities relative to asbestos activities are listed below.

SUPERINTENDENT

Jack Henderson
802 NE 5th Street
Dufur, Oregon 97021
541.467.2509

The Superintendent has overall responsibility for ensuring compliance to the school policies and the successful operation of its programs. This responsibility extends to overall responsibility for the school's activities relative to asbestos containing materials. The Superintendent should approve the appointment of the Local Education Agency (LEA) Designated Person.

LOCAL EDUCATION AGENCY (LEA) DESIGNATED PERSON

Jack Henderson
Superintendent
802 NE 5th Street
Dufur, Oregon 97021
541.467.2509

The LEA Designated Person is required by the AHERA Final Rules to ensure the LEA's continuing compliance with the AHERA requirements. The specific requirements of the LEA Designated Person are described in Section 763.84 of the Final Rules. The LEA Designated Person must ensure that all records are maintained, satisfactory training is provided, notifications are sent, and management plans are available in compliance with the Final Rules.

1.3.1 Signatures

The following individuals have reviewed the AHERA Management Plan and have found the contents and decisions to be acceptable for compliance with the AHERA Final Rules and adequately protect human, health, and the environment. The review has included consideration of the location of asbestos-containing materials, recommended response actions, Operations and Maintenance procedures, notification requirements, training, and periodic surveillance. The following signatures are optional and are not required by the Final Rules.

Optional signatures:

SUPERINTENDENT
Name: Jack Henderson

School Board
Name:

Signature Date
SCHOOL PRINCIPAL
Name: Kristin Whitley

Signature Date
School Board
Name:

Signature Date

Signature Date
Name:

Signature Date
Name:

Signature Date
Name:

Signature Date
Name:

Signature Date
Name:

Signature Date
Name:

Signature Date

INSPECTIONS/ASSESSMENTS

AHERA-accredited Asbestos Building Inspectors performed inspection and assessment services at this school where indicated. The inspections were performed in accordance with applicable sections of 40 CFR, Part 763, Subpart E including Appendices A, B, and D.

SAMPLE COLLECTION

AHERA-accredited Asbestos Building Inspectors collected bulk samples of suspect asbestos containing building materials where indicated. Samples were collected using single use disposable containers. The sample collectors were protected with a half-face negative pressure respirator with P100 filter cartridges. No unprotected individuals were in close proximity. Spray mist was used to control fiber release. Thermal isolation was patched using lagging cloth. Surfacing material was stabilized with spray adhesive, where appropriate.

RECOMMENDATIONS

The following accredited management planner has outlined appropriate response actions of friable, non-friable, known or suspected asbestos containing building materials where indicated. Recommendations are in accordance with 40 CFR, Part 763, Subpart E including Appendices A, B, and D.

Name: Sean Grabiner

Company: PBS Engineering + Environmental

Address: 4412 S Corbett Avenue
Portland, Oregon 97239

Accreditation: AHERA Management Planner

Signature Date

1.4.1 Laboratory

PBS Engineering + Environmental utilized the following qualified laboratory for analysis of bulk samples for asbestos content using polarized light microscopy (PLM) with dispersion staining technique. See the Bulk Sample Inventory, Tab No. 5, as to the particular laboratory participating in the current survey conducted under this contract. The laboratory bulk sample reports appear at the end of the Tab No. 5 and contain the signature of the analyst, quality control supervisor, or laboratory director. As indication that the laboratory meets the applicable requirements of Section 763.87 (a) the laboratory's EPA Accreditation Number is listed below. All work was performed in accordance with procedures described in 40 CFR, Part 763, Subpart E (AHERA).

Lab/Cor Portland, Inc.

4312 South Corbett Avenue
Portland, Oregon 97239
NVLAP 200741-0
503.224.5055

TAB 2

LEA Designated Person Documentation

2.1.1 LEA Designated Person Documentation

The school must designate and train a person to ensure compliance with the requirements of Section 763.84 of the Final Rules. The responsibilities of the LEA Designated Person are listed below. The LEA Designated Person's signature and statement of acceptance appears in the last tab of the Management Plan. If the School Board or Superintendent has formally assigned the LEA Designated Person with a letter, memorandum, or similar conveyance, a copy should be filed under this tab.

LEA DESIGNATED PERSON

Jack Henderson
802 NE 5th Street
Dufur, Oregon 97021
Phone: 541.467.2509

LEA DESIGNATED PERSON TRAINING

Course Name: _____

Training Date: _____

Total Hours: _____

Description: _____

LEA DESIGNATE RESPONSIBILITIES

- A. Ensure that the activities of any persons who perform inspections, reinspections, and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with Subpart E of the Final Rules.
- B. Ensure that all custodial and maintenance employees are properly trained as required by Subpart E of the Final Rules and other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration asbestos standard for construction, the EPA worker protection rule, or applicable State regulations).
- C. Ensure that workers and building occupants, or their legal guardians are informed at least once each school year about inspections, response actions, and post-response action activities, including periodic reinspection and surveillance activities that are planned or in progress.
- D. Ensure that short-term workers (e.g., telephone repair workers, utility works, or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACBM and suspected ACBM.
- E. Ensure that warning labels are posted in accordance with Section 763.95.
- F. Ensure that management plans are available. Inspection and notification of such availability has been provided as specified in the management plan under Section 763.93.
- G. Consider whether any conflict of interest may arise from the interrelationship among accredited personnel and whether that should influence the selection of accredited personnel to perform activities under the Final Rules.

A REMINDER

- HAS YOUR DESIGNATED ASBESTOS COORDINATOR (LEA DESIGNATED PERSON) BEEN TRAINED?

- DO YOU HAVE TO PERFORM INITIAL CLEANING IN YOUR BUILDING?

- HAVE YOU SCHEDULED YOUR CUSTODIAL AND MAINTENANCE STAFF TO BE TRAINED?

- HAVE YOU SIGNED YOUR MANAGEMENT PLAN?

TAB 3

School Buildings

SCHOOL BUILDING(S) LIST

DUFUR SCHOOL
Name of School

DUFUR SCHOOL DISTRICT
LEA (District)

WASCO
County

802 NE 5th STREET
Address

DUFUR
City

97021
Zip Code

541.467.2509
Building Telephone Number

JACK HENDERSON
District's Asbestos
Program Manager

541.467.2509
Telephone Number

Building Name	Address	Construction Date(s)	Friable ACBM*	Non-Friable ACBM*	Friable and Non-Friable Suspected ACBM Assumed to be ACM**	No ACBM
Main	802 NE 5 th STREET	Pre-1978	X	X	X	
Gym	802 NE 5 th STREET	1997			X	
VOC Classrooms	802 NE 5 th STREET	1997			X	

* ACBM – Asbestos-Containing Building Material

** ACM – Asbestos-Containing Material

TAB 4
Prior Inspections



Memorandum

DATE: April 17, 2023
TO: Dufur School District
FROM: PBS Engineering and Environmental
REGARDING: Tab 4 Information

Enclosed is available historic survey information for this facility. PBS understands that the original district records have been lost. PBS has reassembled management plans for the district based on what survey information was available at the time, as well as supplemental investigations by PBS. All other historic AHERA compliance information or survey data has been lost.

PBS understands that abatement of certain materials occurred in 2019. Abatement records for this work during this time have been enclosed here. PBS has incorporated abatement records into the list of existing ACBM in subsequent tabs.

Asbestos Reinspection Report

Dufur School

802 NE Fifth Street

Dufur, OR 97021

(541) 467-2509

Prepared for:

Dufur School District #29

802 NE Fifth Street

Dufur, OR 97021



April 2019

Project No.: 25842.001 Phase No.: 0001 Task No.: 001

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The reinspection process under the AHERA rules states that a school building must be reinspected by an accredited inspector at least every three years. The results of the reinspection are reported in these documents.

LIST OF DOCUMENTS

Material Summary	Page 1.1
Updated Full Assessments	Page 2.1
Updated Stock Assessments	Page 3.1
Bulk Sample Information	Page 4.1 (If any taken)

ACTIVITY DATES

10/14/1988 Management Plan Implementation Date *

02/19/2019 Reinspection End Date

02/19/2022 Next Reinspection Due

* Information provided by School District

REINSPECTION SUMMARY

The 2019 Asbestos Hazard Emergency Response Act (AHERA) 3-Year Asbestos Reinspection for Dufur School, located at 802 NE Fifth Street in Dufur Oregon, was completed on February 19, 2019 in accordance with the requirements of 40 CFR, Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice.

- Asbestos-containing textured ceiling material remains in the music/band room. The material was observed in good condition, with some minor cracking and water staining. The asbestos-containing textured ceiling material previously identified in the industrial arts shop has been abated in conjunction with the demolition of the building.
- Asbestos-containing pipe insulation and associated hard fittings were observed in the boiler room, the mechanical tunnel, and the mechanical spaces above the stage. The pipe insulation was observed in good condition overall; prior repairs are holding well. Isolated areas of damage and dust accumulation were noted in the tunnel. Some minor nicks were observed where materials are stored above the stage. Care should be used when moving materials around asbestos-containing pipe insulation. Pipe insulation in the boiler room and stage mechanical lofts are scheduled for abatement June 2019. Pipe insulation in the tunnel is scheduled to be abandoned in place within the tunnel. When accessing the tunnel, appropriate personal protective equipment should be worn.
- Asbestos-containing mag block insulation was observed on the boiler in the boiler room and on the hot water storage tank above the stage. The material was observed in good condition in both locations. The material is scheduled for abatement June 2019.
- Asbestos-containing insulating cement on fiberglass duct insulation remains on the ducts in the mechanical space above the stage. The material is beginning to delaminate and is sagging at the underside of the ducts. The outer layer of lagging is holding well and keeps the material sealed. The asbestos-containing insulating cement previously reported in the room off of the cafeteria has been abated in conjunction with other building improvements. The material in the stage loft is scheduled to be abated June 2019.
- Cement asbestos board panels were observed at the exterior walkway ceilings/soffits and as wall panels adjacent to exterior doors and windows. The panels are not friable and remain in good condition.
- Asbestos-containing vinyl floor tile and associated mastic remains in the main corridor and in classrooms. The floor tile was observed in good condition with only minor localized impact damage in some areas. There is a heavy coat of wax sealing the floor tile. Floor tile under carpet in the office is scheduled for abatement June 2019.
- Asbestos-containing vinyl wall tile and mastic was identified during PBS's asbestos inspection in support of 2019 bond improvements. Wall tiles were observed in isolated areas around plumbing fixtures in good condition. Tiles are non-friable unless broken.
- Asbestos-containing window glazing compound and caulking is present on the exterior of original windows and window frames.
- Suspect gypsum wallboard and associated joint compound throughout the school remains in good condition with the exception of some damaged walls in the boiler room.

Other non-friable suspect asbestos-containing materials that may exist at the school include sheet floor coverings, built-up roofing, plaster, and fire doors. Not all of these non-friable materials have

been sampled, but are presumed to contain asbestos. Sampling of suspect materials should be performed prior to any impacts by renovation activities.

All of these asbestos-containing building materials should continue to be maintained under the school's AHERA Management Plan.

SIGNATURES

Inspector

Management Planner

James Mastanduno

Accreditation #: IMR-18-4993B

James Mastanduno

Accreditation #: IMR-18-4993B

Known or suspected asbestos-containing building materials are listed below in order of hazard priority. The priorities are established by the Accredited Inspector(s) and Accredited Management Planner(s), and are based on the assessments. A material may be listed more than once if its location varies and if the assessment criteria also dramatically changes.

1. MATERIAL Mag Pipe/Hard Fittings
LOCATION Boiler Room, tunnel, mechanical space above stage, above hallways, potentially in wall cavities
CATEGORY Moderate Concern
 TSI - Damaged or significantly damaged ACBM
2. MATERIAL Mag Block Insulation
LOCATION Boiler Room, mechanical room above stage
CATEGORY Moderate Concern
 TSI - ACBM with potential for damage
3. MATERIAL Textured Ceiling Material
LOCATION Music/Band Room, Music Room Upper Storage
CATEGORY Moderate Concern
 Surfacing Material - Damaged and friable ACBM
4. MATERIAL Insulating Cement/Fiberglass
LOCATION Mechanical space above stage
CATEGORY Moderate to Low Concern
 TSI - Damaged or significantly damaged ACBM
5. MATERIAL Felt Wrap Pipe/Hard Fittings
LOCATION Boiler Room, tunnel, mechanical space above stage, above hallways
CATEGORY Moderate to Low Concern
 TSI - ACBM with potential for damage
6. MATERIAL Built-up Roofing (presumed ACM)
LOCATION Roof
CATEGORY Low Concern
 Miscellaneous Non-friable ACBM or Assumed ACBM
7. MATERIAL Cement Asbestos Board
LOCATION Main entrance ceiling, window panels, soffits
CATEGORY Low Concern
 Miscellaneous Non-friable ACBM or Assumed ACBM

Known or suspected asbestos-containing building materials are listed below in order of hazard priority. The priorities are established by the Accredited Inspector(s) and Accredited Management Planner(s), and are based on the assessments. A material may be listed more than once if its location varies and if the assessment criteria also dramatically changes.

- | | | |
|-----|----------|---|
| 8. | MATERIAL | Fire Door Insulation (presumed ACM) |
| | LOCATION | No known fire doors. Concealed asbestos-containing fire door cores may exist. |
| | CATEGORY | Low Concern
Miscellaneous Non-friable ACBM or Assumed ACBM |
| 9. | MATERIAL | Joint Compound with Gypsum Wallboard |
| | LOCATION | Original construction wallboard |
| | CATEGORY | Low Concern
Miscellaneous Non-friable ACBM or Assumed ACBM |
| 10. | MATERIAL | Sheet Floor Covering (presumed ACM) |
| | LOCATION | Throughout |
| | CATEGORY | Low Concern
Miscellaneous Non-friable ACBM or Assumed ACBM |
| 11. | MATERIAL | Vinyl Floor Tile |
| | LOCATION | Classrooms, main corridor |
| | CATEGORY | Low Concern
Miscellaneous Non-friable ACBM or Assumed ACBM |
| 12. | MATERIAL | Vinyl Wall Tile |
| | LOCATION | Isolated wall areas, typically near plumbing |
| | CATEGORY | Low Concern
Miscellaneous Non-friable ACBM or Assumed ACBM |
| 13. | MATERIAL | Window Glazing Compound and Caulking |
| | LOCATION | Exterior windows and frames |
| | CATEGORY | Low Concern
Miscellaneous Non-friable ACBM or Assumed ACBM |

PRIORITY NO. 1

HOMOGENEOUS AREA Mag Pipe/Hard Fittings

FUNCTIONAL SPACE Boiler Room, tunnel, mechanical space above stage, above hallways, potentially in wall cavities

QUANTITY 3000 LF

DESCRIPTION

Manufactured white, fluffy magnesia pipe insulation and associated hard insulating cement on pipe fittings. Pipe insulation was typically fitted around a pipe and held in place with lagging compound or metal bands.

ADDITIONAL SAMPLES TAKEN: None

ASSESSMENT AHERA CLASSIFICATION TSI - Damaged or significantly damaged ACBM

CONCERN CATEGORY Moderate Concern

CURRENT DAMAGE Moderate to None Minor damage in tunnel

UNDAMAGED AREA Good

FRIABILITY Moderate

ACCESSIBILITY Moderate

DAMAGE POTENTIAL Moderate

DAMAGE TYPE Impact

DAMAGE CAUSE Age

DISCUSSION

AHERA Classification - Damaged or significantly damaged thermal system insulation ACM. Outer layer of lagging reduces the friability classification. If the lagging becomes damaged, the exposed material is highly friable. Only exposed pipes were documented. It is likely that insulated pipe runs are in enclosed ceiling and wall spaces.

RESPONSE ACTIONS

Preventative Measures Prior to Abatement

Repair material. Continue to implement Operations and Maintenance program.
Do not disturb material without proper training and protection.

Recommended Abatement Action

Remove material under full isolation procedures. Other materials are present in the abatement area and could be removed under the same contract.

Other Options

None suggested.

PRIORITY NO. 2

HOMOGENEOUS AREA Mag Block Insulation
FUNCTIONAL SPACE Boiler Room, mechanical room above stage
QUANTITY 500 SF

DESCRIPTION

Manufactured white, fluffy magnesia block insulation. Blocks were typically held in place by wires and an outer layer of lagging compound.

ADDITIONAL SAMPLES TAKEN: None

ASSESSMENT AHERA CLASSIFICATION TSI - ACBM with potential for damage
 CONCERN CATEGORY Moderate Concern

CURRENT DAMAGE None
UNDAMAGED AREA Good
FRIABILITY Moderate
ACCESSIBILITY Moderate
DAMAGE POTENTIAL Moderate
DAMAGE TYPE None
DAMAGE CAUSE None

DISCUSSION

AHERA Classification - ACBM with potential for damage. Outer layer of lagging reduces the friability classification. If the lagging becomes damaged, the exposed material is highly friable.

RESPONSE ACTIONS

Preventative Measures Prior to Abatement

Continue to implement Operations and Maintenance program.
 Do not disturb material without proper training and protection.

Recommended Abatement Action

Remove material under full isolation procedures. Other materials are present in the abatement area and could be removed under the same contract.

Other Options

None suggested.

PRIORITY NO. 3

HOMOGENEOUS AREA Textured Ceiling Material
FUNCTIONAL SPACE Music/Band Room, Music Room Upper Storage
QUANTITY 1608 SF

DESCRIPTION

A material sprayed on to a ceiling substrate to create a textured appearance, provide acoustical dampening, condensation prevention or other purposes.

ADDITIONAL SAMPLES TAKEN: None

ASSESSMENT	AHERA CLASSIFICATION	Surfacing Material - Damaged and friable ACBM
	CONCERN CATEGORY	Moderate Concern
CURRENT DAMAGE	Moderate to None	Minor cracking and staining
UNDAMAGED AREA	Good	
FRIABILITY	Moderate	
ACCESSIBILITY	Moderate to Low	High ceilings in music room
DAMAGE POTENTIAL	Moderate to Low	
DAMAGE TYPE	Water	
DAMAGE CAUSE	Water	

DISCUSSION

AHERA Classification - ACBM with potential for damage.

RESPONSE ACTIONS

Preventative Measures Prior to Abatement

Continue to implement Operations and Maintenance program.
Do not disturb material without proper training and protection.

Recommended Abatement Action

Remove material under full isolation procedures.

Other Options

Encapsulate material.

PRIORITY NO. 4

HOMOGENEOUS AREA Insulating Cement/Fiberglass

FUNCTIONAL SPACE Mechanical space above stage

QUANTITY 100 SF

DESCRIPTION

Cementitious mixture applied over fiberglass insulation for protection and insulating valve. It is typically found on tanks, boilers, etc. The insulating cement is usually protected with lagging.

ADDITIONAL SAMPLES TAKEN: None

ASSESSMENT AHERA CLASSIFICATION TSI - Damaged or significantly damaged ACBM

CONCERN CATEGORY Moderate to Low Concern

CURRENT DAMAGE Moderate to None Material is somewhat loose and sagging

UNDAMAGED AREA Good Outer lagging is holding well

FRIABILITY Moderate to Low

ACCESSIBILITY Moderate to Low

DAMAGE POTENTIAL Moderate to Low

DAMAGE TYPE None

DAMAGE CAUSE None

DISCUSSION

AHERA Classification - ACBM with potential for damage. Only the exposed material was documented. It is likely that additional material is in enclosed ceiling and wall space. Outer layer of lagging reduces the friability classification. If the lagging becomes damaged, the exposed material is moderately to highly friable.

RESPONSE ACTIONS

Preventative Measures Prior to Abatement

- Continue to implement Operations and Maintenance program.
- Do not disturb material without proper training and protection.

Recommended Abatement Action

Remove material under full isolation procedures. Other materials are present in the abatement area and could be removed under the same contract.

Other Options

None suggested.

PRIORITY NO. 5

HOMOGENEOUS AREA Felt Wrap Pipe/Hard Fittings

FUNCTIONAL SPACE Boiler Room, tunnel, mechanical space above stage, above hallways

QUANTITY 1000 LF

DESCRIPTION

Layers of heavy felt pipe insulation and associated hard insulating cement on fittings. Felts are typically thicker than paper layers. Two halves were generally fitted around a pipe and held in place with lagging.

ADDITIONAL SAMPLES TAKEN: None

ASSESSMENT AHERA CLASSIFICATION TSI - ACBM with potential for damage

CONCERN CATEGORY Moderate to Low Concern

CURRENT DAMAGE None

UNDAMAGED AREA Good

FRIABILITY Moderate to Low

ACCESSIBILITY Moderate to Low

DAMAGE POTENTIAL Moderate to Low

DAMAGE TYPE None

DAMAGE CAUSE None

DISCUSSION

AHERA Classification - ACBM with potential for damage. Outer layer of lagging reduces the friability classification. If the lagging becomes damaged, the exposed material is moderately to highly friable. Only exposed pipes were documented. It is likely that insulated pipe runs are in enclosed ceiling and wall spaces.

RESPONSE ACTIONS

Preventative Measures Prior to Abatement

- Continue to implement Operations and Maintenance program.
- Do not disturb material without proper training and protection.

Recommended Abatement Action

Remove material under full isolation procedures. Other materials are present in the abatement area and could be removed under the same contract.

Other Options

None suggested.

MATERIAL Built-up Roofing (presumed ACM)

FUNCTIONAL SPACE Roof

DESCRIPTION

Multiple layers of manufactured roofing felts and asphaltic emulsion. Both felts and emulsion may contain asbestos. Sampling to substrate is necessary since a given membrane may represent several applications.

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

Non-friable built-up roofing felt and bitumens typically contain asbestos. It is recommended that a qualified inspector take full-depth samples before any activity that would raise friability, such as drilling, cutting, or removal. If the samples test positive (asbestos-containing), remove using wet methods and proper worker protection. Contact local air pollution control authority and worker protection division for additional and current guidelines. Re-roofing is generally permitted if the existing material remains undisturbed.

MATERIAL Cement Asbestos Board

FUNCTIONAL SPACE Main entrance ceiling, window panels, soffits

DESCRIPTION

Manufactured cementitious sheets with asbestos fibers bound into the material's matrix. The sheets were generally held in place with nails or screws.

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

Cement asbestos board was observed in the building. Before raising friability by sawing, drilling, etc., remove using wet methods and proper worker protection, modified isolation or full isolation depending upon application and quantity of material. A qualified project designer should determine appropriate method prior to abatement. Testing is not typically considered necessary because the inspector is usually able to visually identify the white asbestos fiber bundles bound into the cementitious matrix.

MATERIAL Fire Door Insulation (presumed ACM)
FUNCTIONAL SPACE No known fire doors. Concealed asbestos-containing fire door cores may exist.

DESCRIPTION

Typically a metal door assembly including frame, hinges, and lockset that has an Underwriters Laboratory (U.L.) listing for resistance to fire. Wood fire rated doors are less common.

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

Fire doors may contain an asbestos felt or block inside to increase fire rating. The felt or block may cover the full interior of the door or be just around one area such as the lockset. A qualified inspector should penetrate the door finish and sample the interior before creating windows, drilling doors, disposal, etc. If the door contains asbestos, dispose of properly and replace.

MATERIAL Joint Compound with Gypsum Wallboard

FUNCTIONAL SPACE Original construction wallboard

DESCRIPTION

Gypsum wallboard is typically manufactured in panels composed of compressed gypsum plaster. Seams are covered with tape and joint compound. During the PBS 2019 bond survey, joint compound with non-ACM gypsum wallboard walls was found to be < 1% asbestos.

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

It is very difficult to determine all possible varieties of gypsum wallboard and plaster in a given building since these materials are obscured by paint and other finishes. Even if they test negative (no asbestos detected), other locations of these materials may contain asbestos. In the gypsum wallboard, asbestos is typically found in the joint compound. It is PBS' experience that 3 to 5 percent of all gypsum wallboard and plaster samples contain asbestos. An accredited inspector should take full-depth samples before repair, remodeling, demolition or other activities that would impact any wallboard. If the sample tests are positive (asbestos-containing), remove using current regulatory guidelines.

MATERIAL Sheet Floor Covering (presumed ACM)

FUNCTIONAL SPACE Throughout

DESCRIPTION

Vinyl floor covering manufactured as a sheet product and installed with a minimum of seams. The sheeting generally contains a paper or felt backing that typically contains asbestos.

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

The felt backing to the sheet vinyl is suspected to contain asbestos and is also potentially very friable. The sheet vinyl matrix is also suspect. Avoid activities such as cutting, drilling, or removal that would increase friability of the vinyl or expose the backing. At a minimum, establish an Operations and Maintenance program. If it is necessary to impact the vinyl, a qualified inspector should take full-depth samples to determine asbestos content. If the backing is analyzed as asbestos-containing (positive), remove the sheet flooring using full isolation. Contact local air pollution authority and worker protection division for further guidelines. Carpeting over the material is permitted if existing material remains undisturbed.

MATERIAL Vinyl Floor Tile

FUNCTIONAL SPACE Classrooms, main corridor

DESCRIPTION

Manufactured floor tiles typically 9 inches by 9 inches or 12 inches by 12 inches, composed of a dense vinyl matrix that often contains asbestos and is adhered to the substrate with a mastic that often contains asbestos.

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

Vinyl floor tile and mastic are suspected to contain asbestos. Drilling, grinding, sanding, etc. will create friability. At a minimum, establish an operations and maintenance program. Prior to disturbing the tile, a qualified inspector should take samples that include both the tile and mastic, which adheres the tile to the floor substrate. Remove using full isolation if the tile and/or mastic is asbestos-containing (positive). Other methods may be acceptable; contact the local air pollution authority and worker protection division. Carpeting and reflooring is permitted if existing material remains undisturbed. Polarized light microscopy (PLM) analysis is not considered conclusive for this material due to the potential presence of many small fibers that are invisible under PLM magnification. All negative sample results of vinyl floor tile should be verified through scanning or transmission electron microscopy (SEM or TEM).

MATERIAL Vinyl Wall Tile
FUNCTIONAL SPACE Isolated wall areas, typically near plumbing

DESCRIPTION

Manufactured floor tiles typically 9 inches by 9 inches or 12 inches by 12 inches, composed of a dense vinyl matrix that often contains asbestos and is adhered to the substrate with a mastic that often contains asbestos.

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

Vinyl floor tile and mastic are suspected to contain asbestos. Drilling, grinding, sanding, etc. will create friability. At a minimum, establish an operations and maintenance program. Prior to disturbing the tile, a qualified inspector should take samples that include both the tile and mastic, which adheres the tile to the floor substrate. Remove using full isolation if the tile and/or mastic is asbestos-containing (positive). Other methods may be acceptable; contact the local air pollution authority and worker protection division. Carpeting and reflooring is permitted if existing material remains undisturbed. Polarized light microscopy (PLM) analysis is not considered conclusive for this material due to the potential presence of many small fibers that are invisible under PLM magnification. All negative sample results of vinyl floor tile should be verified through scanning or transmission electron microscopy (SEM or TEM).

MATERIAL Window Glazing Compound and Caulking

FUNCTIONAL SPACE Exterior windows and frames

DESCRIPTION

Manufactured, generally pre-mixed matrix putty compound that may contain asbestos fibers for reinforcement and insulating cement. The material may be utilized to seal, insulate, or stabilize structural or mechanical systems

SAMPLE RESULTS ASSUMED POSITIVE

ASSESSMENT Low Concern

The material is generally non-friable in a pliable state. Age and exposure may change friability. Before impacting the material by remodeling, demolition, or removal, a qualified inspector should take samples for analysis. If the samples are analyzed as containing asbestos, remove using wet methods, controlled conditions, and proper worker protection.

Limited Pre-Renovation Asbestos and Lead Paint Survey Report

Dufur School
802 NE 5th Street
Dufur, OR 97021

Prepared for:

Dufur School District #29

General Information	1.1
Inspection Summary	1.2
Survey Drawings	2.1
Sample Inventories	3.1
Laboratory Data	Not Numbered
AHERA Certificates	Not Numbered



April 2019

Project No.: 25842.000 Phase No.: 0001

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GENERAL INFORMATION

BUILDING DATA

Dufur School
802 NE 5th Street
Dufur, OR 97021

CLIENT DATA

Dufur School District #29
802 NE 5th Street
Dufur, OR 97021-3034

SURVEY SCOPE

PBS Engineering and Environmental Inc. (PBS) has performed a limited pre-renovation asbestos survey of accessible building areas in accordance with OSHA in 29 CFR 1910.1001 and compiled a report with the following information:

- The type, location, and approximate quantity of suspect asbestos-containing materials
- Bulk sampling of selected suspect building materials
- Lead paint sampling
- Inspection summary
- Floor plan diagrams indicating material and sample locations
- Laboratory analytical data of bulk material sampled

With regard to asbestos, PBS endeavored to locate all the suspect asbestos-containing materials in the building within the scope of work; however, suspect asbestos-containing materials may be present and concealed within wall, ceiling, or floor spaces. If suspect materials are uncovered during demolition activities that are not identified in this report, testing should be performed prior to impact.

PBS has conducted a physical inspection of the building, compiled this report consistent with the survey scope, and certifies that the information is correct and accurate within the standards of professional quality and contractual obligations.

James Mastanduno
Project Manager/Prime Inspector
Accreditation #: IMR-18-4993B

Signature

Date

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INSPECTION SUMMARY

DATES	SURVEYED BY	ACTIVITY
2/18/2019	James Mastanduno	Building Survey

PBS has investigated accessible areas inside of the building to locate suspect asbestos-containing building materials (ACBM). Suspect materials may be present in concealed areas (e.g., behind walls and under carpet). The findings are listed below.

ASBESTOS MATERIALS

The following materials either tested positive, or, based on the experience of PBS field personnel, were not tested and should be considered asbestos-containing. Materials that had mixed results are considered positive. Materials not sampled may contain asbestos and should be tested to verify asbestos content prior to impact through demolition, renovation, etc.

(+) Tested Positive, (M) Mixed Results, (P) Presumed Positive, (T) Previously Tested Positive.

Quantities and locations presented represent only those areas where materials were within the scope of work and are likely to be impacted by planned renovations. Additional quantities and locations of these materials exist throughout the building.

<u>Result</u>	<u>Material (type)</u>	<u>Location</u>	<u>Approx. Quantity</u>
(P)	Boiler jacket insulation	Boiler room	400 SF
(P)	Tank jacket insulation	Stage south mechanical loft	130 SF
(P)	Air-cell and mag pipe insulation and mudded fittings	Tunnel, boiler room, stage mechanical lofts, potentially concealed within wall and ceiling cavities	300 LF
(P)	Insulation and mastic associated with fiberglass HVAC insulation	Stage north mechanical loft	200 SF
(+)	Vinyl floor tile and black mastic on concrete	Office areas (under carpet), gym storage room, southeast classroom	2,500 SF
(+)	Vinyl wall tile and mastic	Southeast classroom around drinking fountain, stage storage room	70 SF
(P)	Cement asbestos board exterior eaves	Boiler room and southeast classroom exteriors	945 SF
(+)	Exterior window glazing	Southeast classroom window	250 SF
(+)	Caulking around window frame perimeter	Southeast classroom window	80 LF
(P)	Fire door insulation	Boiler room	1 EA
(+)	Built up roofing on wood decking	Building entryway and overhang roof	2,125 SF
(+)	Corrugated cement roofing	Gym roof	NOT QUANTIFIED

INSPECTION SUMMARY

(+) Joint compound associated with gypsum wallboard Original construction gypsum walls NOT QUANTIFIED

MATERIALS THAT TESTED NEGATIVE FOR ASBESTOS

The following materials tested negative based on ASHARA sampling minimums and testing by NVLAP participating laboratories. Although no asbestos was detected, it is possible that further sampling could indicate asbestos content. It may be prudent to test prior to impact through demolition, renovation, etc.

<u>Material (type)</u>	<u>Location</u>
1' x 1' white wood fiber ceiling tiles and brown mastic	Restrooms, main hallways, southeast classroom
1' x 1 white wood fiber wall tile and brown mastic	Southeast classroom
12" black vinyl tile and yellow mastic	Office copy room
2' x 4' white lay-in ceiling tile	Office areas
4" gray covebase with white mastic	Southeast classroom
4" gray covebase with yellow mastic	Office areas
Ceiling plastic on steel lath	Boiler room
Cement masonry block and mortar	Boiler room
Ceramic block walls and mortar	Bathrooms, custodial rooms
Ceramic tile floor and grout	Bathrooms, custodial rooms
Exterior siding board	Boiler room exterior
Gray HVAC duct sealant	Air handling equipment
Gray mechanical isolation cloth	HVAC joints
Newer installation gypsum wallboard and joint compound walls and ceilings	Office walls
Older brown covebase with brown mastic	Office areas
Red chimney brick and mortar	Boiler room
Residual brown ceiling tile glue dots	Office areas above drop ceiling
Roof penetration sealant	Office area roof at mechanical unit
Silver chimney door paint	Boiler room
Tan cement block and mortar	Hallways
Tan chimney fire brick	Boiler room
Unfinished gypsum ceiling board	Southeast classroom, glued ceiling tile areas
Yellow carpet mastic	Carpeted areas throughout

INSPECTION SUMMARY

On February 18, 2019, PBS performed a limited pre-renovation asbestos and lead paint survey of the Dufur School building located at 802 NE 5th Street in Dufur, Oregon. The survey was requested by Dufur School District and Straightline Architects in anticipation of renovations of the building.

BACKGROUND

The purpose of the survey was to locate, identify, and quantify accessible friable and non-friable asbestos-containing building materials and lead-based paint for removal prior to renovation. The inspection was limited to the areas included in a testing plan provided to PBS by Straightline Architects and dated January 21, 2019. A comprehensive survey of the building was not completed and asbestos-containing materials are known to exist in other parts of the building not included in this scope of work.

The survey is also intended to satisfy Occupational Safety and Health Administration (OSHA) hazard communication requirements as well as requirements by the Department of Environmental Quality (DEQ) to perform an asbestos inspection prior to renovation or demolition activities under Oregon Administrative Rule (OAR) 340-248-0270.

ASBESTOS SUMMARY

A PBS Asbestos Hazard Emergency Response Act (AHERA) accredited inspector inspected the building to determine the presence, location, and approximate quantity of asbestos containing materials (ACM). Thirty-eight bulk samples of building materials, suspected of containing asbestos, were collected and submitted under chain of custody to Lab/Cor Portland Inc. of Portland, Oregon, for polarized light microscopy (PLM) analysis. The following materials were found to contain asbestos:

- Boiler jacket insulation in the boiler room.
- Tank jacket insulation in the south stage mechanical loft.
- Air-cell and mag pipe insulation associated with steam and domestic water plumbing lines in the tunnel, boiler room, stage mechanical lofts, and concealed within wall cavities.
- Asbestos-containing insulation/mastic associated with fiberglass insulation on ductwork in the north stage mechanical loft.
- Asbestos-containing vinyl floor tile and associated mastic on concrete in the office (under carpet), gym storage room, and the southeast classroom.
- Asbestos-containing vinyl wall tile and associated mastic in the southeast classroom and stage north storage room.
- Exterior cement asbestos board eaves near the boiler room and southeast classroom.
- Exterior window glazing and window frame caulking on the southeast classroom windows.
- Insulation within boiler room fire door.
- Built-up roofing on wood decking over building entryway.
- Corrugated cement roofing panels over gym roof.

The following building material has been found to contain less than one percent (<1%) asbestos. It should be noted that the Environmental Protection Agency (EPA) does not consider building materials that contain <1% asbestos to be asbestos-containing building materials. These materials are included in the asbestos-containing materials section of this report for the sake of hazard communication, since there are some OSHA restrictions and

INSPECTION SUMMARY

handling requirements associated with these materials:

- Joint compound associated with original construction gypsum wallboard walls.

At the time of this survey, all asbestos-containing building materials were observed to be in good condition. Boiler, pipe, and duct insulation were found to be friable during the investigation. All other asbestos-containing building materials were non-friable at the time of this survey.

Please refer to the asbestos bulk sample inventory for more sample details.

Asbestos Regulations

Oregon DEQ, Environmental Protection Agency (EPA), and OSHA regulations require proper removal and handling of ACM by licensed and trained asbestos abatement contractors prior to building renovations or demolition.

The EPA, DEQ, and OSHA all define ACM as any material containing more than one percent asbestos. Although materials equal to or less than one percent are not considered by regulatory agencies to be an ACM, they still have some asbestos content, and Oregon OSHA has specific requirements for situations in which workers may encounter, disturb, or remove materials containing any level of asbestos. For the sake of hazard communication, these materials are included in the asbestos-containing materials section of this report.

In 1995, Oregon OSHA adopted 29 Code of Federal Regulations (CFR) Part 1926.1101 governing asbestos under OAR 437-003-1926.1101. The regulation has made significant changes in work procedures and how asbestos materials are managed. OSHA believes that the single biggest risk of asbestos exposure is to workers who unknowingly or improperly disturb ACM. Hazard communication, training, personal protection, work practices, exposure monitoring, and recordkeeping are all major components of the regulation.

DEQ's OAR 340, Division 248 also covers asbestos abatement requirements, removal notifications, licensing, and certifications for contractors.

For more information regarding the removal of asbestos-containing materials, please refer to the following:

1. Oregon Occupational Safety and Health Administration, OAR 437-003-1926.1101
2. Department of Environmental Quality, OAR-340, Division 248

INSPECTION SUMMARY

LEAD SUMMARY

Paint was sampled for lead content for the sake of hazard communication.

Four paint chip samples were collected from representative building components from the building and submitted under chain of custody to RJ Lee Group of Monroeville, Pennsylvania, for analysis of lead content via flame atomic absorption (FLAA). The concentration of lead in the samples range from less than 200 parts per million (ppm) to 1,200 ppm.

See the lead sample inventory section for representative building components and corresponding results.

Paint testing for this survey was limited in scope. The report information and testing results are not to be construed as an exhaustive investigation of lead-containing paint on all building surfaces. All paint on painted surfaces not identified in this report should be presumed to contain lead.

Lead-Containing Paint Regulations

The Consumer Product Safety Commission limit for lead in consumer paint products is 0.009 percent or 90 parts per million (ppm) or greater. The Department of Housing and Urban Development (HUD) and the EPA define lead-based paint as that which contains 0.5 percent or 5,000 ppm. Under OSHA, any lead concentration in paint that may become airborne during construction operations triggers requirements in the OSHA Lead in Construction Standard 29 CFR 1926.62 to protect employees impacting the paint.

In 1993, Oregon OSHA adopted the federal OSHA Lead Standard for the Construction Industry Title 29 CFR 1926.62 under Oregon Administrative Rule 437 Division 3 1926.62. This standard outlines worker exposure limits, personal protection requirements, and employer responsibility for exposure assessment, training, housekeeping, and recordkeeping. OSHA's lead standard applies to all work where employees may be exposed to lead in construction, alteration, or repair activities. This includes demolition or renovation of structures where lead-containing materials are present.

Disposal

According to Oregon DEQ's *Hazardous Waste/Toxics Reduction Policy Clarification*, disposal of building demolition waste coated with lead-based paint generally will not require a hazardous waste determination (i.e., toxicity characteristic leaching procedures [TCLP] testing) if demolition debris is disposed of at a DEQ-permitted solid waste landfill that meets the current design standards for municipal solid waste disposal facilities of 40 CFR Part 258.

Refer to the DEQ hazardous waste reduction policy and follow all requirements under the Oregon DEQ, Management of Building Demolition Waste, 97-002A for proper disposal of lead-based painted demolition waste.

This report is not suitable as a bid document or an asbestos abatement design. The purpose of this report is risk hazard communication only.

GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS.
2. ACCESSIBLE AREAS WERE INSPECTION FOR SUSPECT ASBESTOS-CONTAINING MATERIALS. WHEN OBSERVED, REPRESENTATIVE SAMPLES OF HOMOGENOUS MATERIALS WERE TAKEN. ONLY POSITIVE OR PRESUMED POSITIVE MATERIALS ARE SHOWN. REFERENCE THE BULK SAMPLE AND MATERIAL INVENTORIES FOR ADDITIONAL INFORMATION.
3. INACCESSIBLE AND/OR CONCEALED ASBESTOS-CONTAINING MATERIALS MAY EXIST ABOVE CEILINGS, IN WALLS, AND INTERSTITIAL SPACES THROUGHOUT THIS BUILDING. EXTENT AND QUANTITIES ARE UNKNOWN.
4. LEAD-CONTAINING PAINT AND VARNISH ARE PRESENT ON THE MAJORITY OF REPRESENTATIVE BUILDING COMPONENTS TESTED. TESTING WAS LIMITED IN NATURE. ALL OTHER UNTESTED PAINTED OR VARNISHED SURFACES THROUGHOUT THE BUILDING SHOULD BE PRESUMED TO CONTAIN LEAD.

SURVEY NOTES

1. ASBESTOS FLOORING APPLICATIONS SHOULD BE ASSUMED TO BE PRESENT UNDER CASEWORK IN AREAS WHERE THE MATERIAL IS PRESENT.
2. ASBESTOS-CONTAINING PIPE INSULATION WAS IDENTIFIED WITHIN THE TUNNEL, BOILER ROOM, AND MECHANICAL LOFTS. PIPE INSULATION IS LIKELY PRESENT WITHIN WALL CAVITIES THROUGHOUT THE SCHOOL IN ORIGINAL CONSTRUCTION AREAS, AND SHOULD BE ANTICIPATED TO BE PRESENT AT RADIATOR LOCATIONS AND WET WALLS NEAR PLUMBING FIXTURES.
3. JOINT COMPOUND ASSOCIATED WITH GYPSUM WALLBOARD ON ORIGINAL CONSTRUCTION GYPSUM WALLBOARD WALLS WAS FOUND TO CONTAIN LESS THAN ONE PERCENT ASBESTOS.
4. ROOF SAMPLING IDENTIFIED ASBESTOS-CONTAINING BUILT-UP ROOFING OVER THE WOOD DECKING AT THE BUILDING ENTRANCE AND ASBESTOS CONTAINING CORRUGATED CEMENT ROOFING OVER THE GYM.

KEY NOTES

- 1 LOCATION OF PLUMBING AND RADIATORS THAT MAY CONCEAL ASBESTOS-CONTAINING INSULATION WITHIN WALL, FLOOR, OR CEILING CAVITIES.
- 2 TUNNEL ENTRANCE WITH ASBESTOS-CONTAINING PIPE INSULATION LEADING TO THE REST OF THE BUILDING.

LEGEND

- ASBESTOS-CONTAINING FLOOR TILE AND MASTIC ON CONCRETE UNDER CARPET
- ASBESTOS-CONTAINING FLOOR TILE AND MASTIC ON CONCRETE
- EXTERIOR CEMENT ASBESTOS BOARD EAVES
- ASBESTOS-CONTAINING VINYL WALL TILE AND MASTIC
- ASBESTOS-CONTAINING HORIZONTAL PIPE INSULATION
- ASBESTOS-CONTAINING VERTICAL PIPE INSULATION
- EXTERIOR WINDOW ASSEMBLIES WITH ASBESTOS-CONTAINING CAULK AND GLAZING
- ASBESTOS-CONTAINING BOILER OR TANK INSULATION
- PRESUMED ASBESTOS-CONTAINING FIRE DOOR
- ASBESTOS-CONTAINING INSULATING COMPOUND WITH FIBERGLASS DUCT INSULATION

ASBESTOS SAMPLE SYMBOLS

- 007 DRAWING REFERENCE TO BULK SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES
- MATERIAL SYMBOL
- NOT TESTED
 - NEGATIVE
 - POSITIVE
 - THERMAL SYSTEM INSULATION
 - SURFACING MATERIAL
 - ◇ MISCELLANEOUS MATERIAL

INVENTORY OF ASBESTOS SAMPLES

DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
001	25842.000-0001	(-/-)	CMU (01)
002	25842.000-0002	(-/-)	BRICK (01)
003	25842.000-0003	(-)	BRICK (02)
004	25842.000-0004	(-)	PAINT (01)
005	25842.000-0005	(-)	WALL AND CEILING PLASTER (01)
006	25842.000-0006	(-/+)	VINYL FLOOR TILE (01)
007	25842.000-0007	(-/+)	VINYL FLOOR TILE (02)
008	25842.000-0008	(-/-)	COVEBASE/MASTIC (01)
009	25842.000-0009	(-/-)	COVEBASE/MASTIC (02)
010	25842.000-0010	(-)	LAY-IN CEILING TILE (01)
011	25842.000-0011	(-/-)	MASTIC (01)
012	25842.000-0012	(<1%/-<1%/-)	GYPSUM WALLBOARD/ JOINT COMPOUND (01)
013	25842.000-0013	(-/-)	VINYL FLOOR TILE (03)
014	25842.000-0014	(-/-/-)	GYPSUM WALLBOARD/ JOINT COMPOUND (02)
015	25842.000-0015	(-/-)	MASTIC (01)
016	25842.000-0016	(-)	CAULK (01)

INVENTORY OF ASBESTOS SAMPLES (CONTINUED)

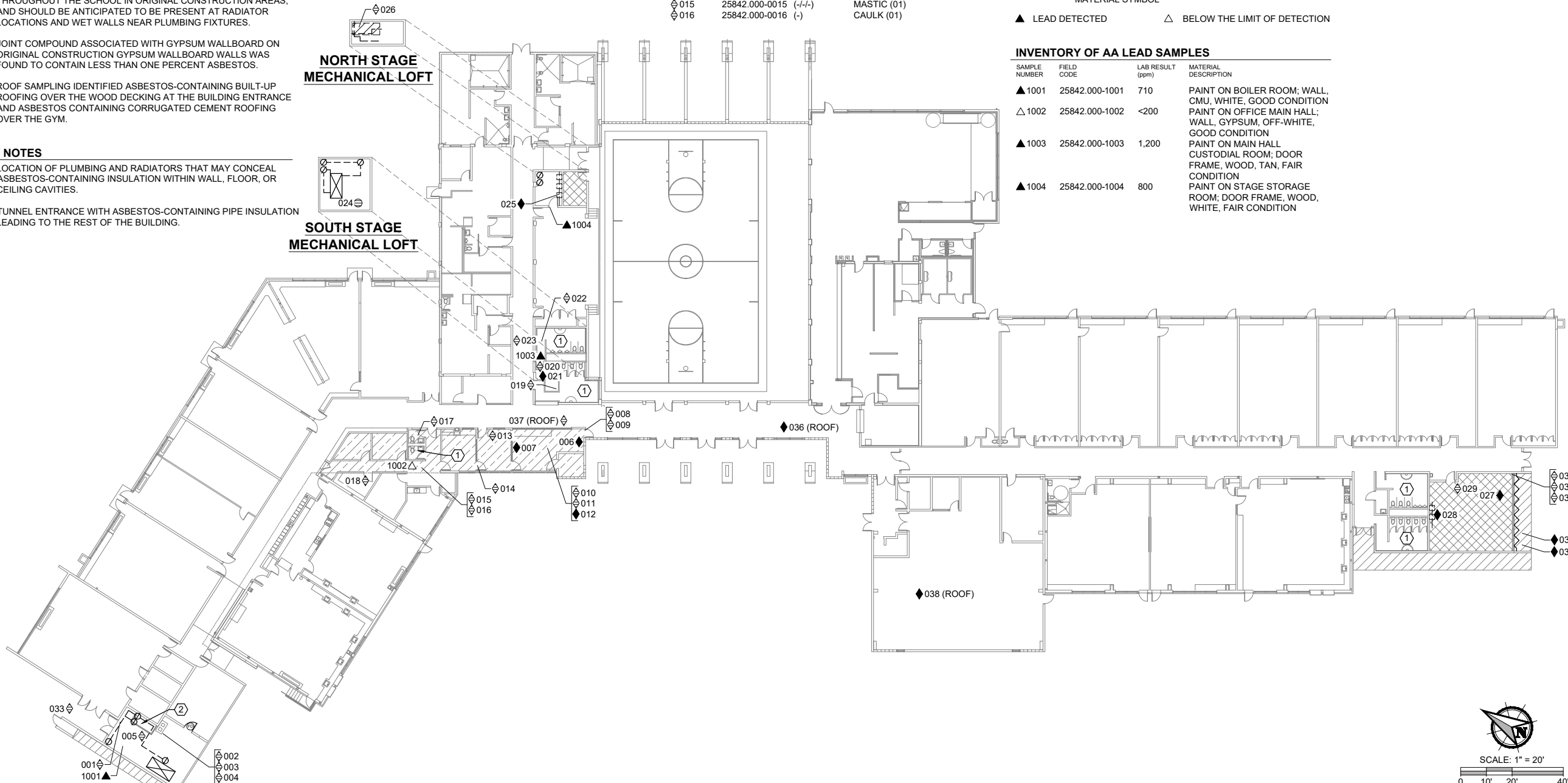
DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
017	25842.000-0017	(-/-)	GLUED-ON CEILING TILES (01)
018	25842.000-0018	(-)	MASTIC (02)
019	25842.000-0019	(-/-)	CERAMIC TILE/GROUT (01)
020	25842.000-0020	(-/-)	CERAMIC TILE/GROUT (02)
021	25842.000-0021	(+/-)	GYPSUM WALLBOARD/ JOINT COMPOUND (03)
022	25842.000-0022	(-/-)	GLUED-ON CEILING TILES (01)
023	25842.000-0023	(-/-)	CMU (02)
024	25842.000-0024	(-)	MECHANICAL ISOLATION CLOTH (01)
025	25842.000-0025	(+/+)	VINYL FLOOR TILE (04)
026	25842.000-0026	(-/-)	INSULATING CEMENT (01)
027	25842.000-0027	(-/+)	VINYL FLOOR TILE (05)
028	25842.000-0028	(+/-)	VINYL FLOOR TILE (06)
029	25842.000-0029	(-/-)	COVEBASE/MASTIC (03)
030	25842.000-0030	(-/-)	GLUED-ON CEILING TILES (02)
031	25842.000-0031	(-)	GYPSUM WALLBOARD (01)
032	25842.000-0032	(-/-)	GLUED-ON CEILING TILES (03)
033	25842.000-0033	(-/-)	SIDING (01)
034	25842.000-0034	(<1%)	WINDOW GLAZING COMPOUND (01)
035	25842.000-0035	(+)	CAULK (02)
036	25842.000-0036	(-/-/+/+/+/+)	BUILT-UP ROOFING (01)
037	25842.000-0037	(-/-/-)	BUILT-UP ROOFING (02)
038	25842.000-0038	(+/-)	CEMENT ASBESTOS BOARD (01)

LEAD SAMPLE SYMBOLS

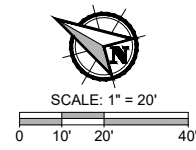
- 1007 DRAWING REFERENCE TO LEAD SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES
- MATERIAL SYMBOL
- ▲ LEAD DETECTED
 - △ BELOW THE LIMIT OF DETECTION

INVENTORY OF AA LEAD SAMPLES

SAMPLE NUMBER	FIELD CODE	LAB RESULT (ppm)	MATERIAL DESCRIPTION
▲ 1001	25842.000-1001	710	PAINT ON BOILER ROOM; WALL, CMU, WHITE, GOOD CONDITION
△ 1002	25842.000-1002	<200	PAINT ON OFFICE MAIN HALL; WALL, GYPSUM, OFF-WHITE, GOOD CONDITION
▲ 1003	25842.000-1003	1,200	PAINT ON MAIN HALL CUSTODIAL ROOM; DOOR FRAME, WOOD, TAN, FAIR CONDITION
▲ 1004	25842.000-1004	800	PAINT ON STAGE STORAGE ROOM; DOOR FRAME, WOOD, WHITE, FAIR CONDITION



FIRST FLOOR PLAN



PREPARED FOR: DUFUR SCHOOL DISTRICT #29

File Name: L:\Projects\25800\25800_25800\25842_DufurSchool\Material\ASBESTOS\25842.000_HM1.dwg Layout Tab: LAYOUT1 User: jin Blinnis CAD Plot Date/Time: 4/16/2019 1:54:01 PM



HAZARDOUS MATERIAL SURVEY PLAN
DUFUR SCHOOL
 802 NE 5TH STREET, DUFUR, OREGON

NO	REVISION	DATE	BY	APPD

DRAWN BY JAB	
CHECKED: JM	
DATE: APRIL 2019	
PROJECT NUMBER: 25842.000	
SHEET DRAWING NO: HM1	
SHEET 1 OF 1	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.000-0001	CMU (01)		Boiler room; cement block and mortar	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	rubbery coating, white		No Asbestos Detected
		Layer 2	cementitious material, gray	No Asbestos Detected	
25842.000-0002	Brick (01)		Boiler room; red chimney brick and mortar	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	ceramic material, red		No Asbestos Detected
		Layer 2	cementitious material, gray	No Asbestos Detected	
25842.000-0003	Brick (02)		Boiler room; tan chimney fire brick	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	granular cement material, brown	No Asbestos Detected	
25842.000-0004	Paint (01)		Boiler room; silver outer chimney door paint	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	paint, silver	No Asbestos Detected	
25842.000-0005	Wall and Ceiling Plaster (01)		Boiler room; plaster ceiling on steel lath	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	cementitious material, off-white	No Asbestos Detected	
25842.000-0006	Vinyl Floor Tile (01)		Office reception; 12" gray vinyl floor tile with yellow and black mastic	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	mastic, tan		No Asbestos Detected
		Layer 2	vinyl, gray		No Asbestos Detected
		Layer 3	mastic, black	2% Chrysotile	
25842.000-0007	Vinyl Floor Tile (02)		Office reception; 9" tan vinyl floor tile with black mastic	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	mastic, yellow		No Asbestos Detected
		Layer 2	hard vinyl, tan		4% Chrysotile
		Layer 3	mastic, black	3% Chrysotile	
25842.000-0008	Covebase/Mastic (01)		Office reception; 4" gray covebase with yellow mastic	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	rubbery material, gray		No Asbestos Detected
		Layer 2	mastic, yellow/tan	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.000-0009	Covebase/Mastic (02)	Office reception; brown old covebase with brown mastic		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Yellow brittle mastic		No Asbestos Detected
		Layer 2	Brown rubbery material		No Asbestos Detected
	Layer 3	Brown brittle mastic	No Asbestos Detected		
25842.000-0010	Lay-in Ceiling Tile (01)	Office reception; 2' by 4' white lay-in ceiling tile		Lab Cor	
		Layer:	Description:		Analysis:
	Layer 1	compressed fibrous material, tan with paint, white	No Asbestos Detected		
25842.000-0011	Mastic (01)	Office reception; brown residual ceiling tile glue dots		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Trace brown compressed fibrous material		No Asbestos Detected
	Layer 2	Brown brittle mastic	No Asbestos Detected		
25842.000-0012	Gypsum Wallboard/Joint Compound (01)	Office reception; gypsum and joint compound old ceiling board		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	fine compact powder, off-white		<1% Chrysotile
		Layer 2	paper backing, off-white		No Asbestos Detected
		Layer 3	fine compact powder, off-white		<1% Chrysotile
	Layer 4	compact chalky material with paper, white	No Asbestos Detected		
25842.000-0013	Vinyl Floor Tile (03)	Office copy room; 12" black vinyl floor tile with yellow mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	mastic, yellow		No Asbestos Detected
	Layer 2	hard vinyl, black	No Asbestos Detected		
25842.000-0014	Gypsum Wallboard/Joint Compound (02)	Office copy room; office wall gypsum and joint compound		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	fine compact powder, white with paint, off-white		No Asbestos Detected
		Layer 2	paper backing, off-white		No Asbestos Detected
		Layer 3	fine compact powder, white		No Asbestos Detected
	Layer 4	compact chalky material with paper, white	No Asbestos Detected		

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.000-0015	Mastic (01)	Office hall; brown residual ceiling tile glue dots		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	Beige fibrous material	No Asbestos Detected
		Layer 2	Brown brittle mastic	No Asbestos Detected
		Layer 3	Trace tan wooden compressed fibrous material	No Asbestos Detected
25842.000-0016	Caulk (01)	Office hall; gray HVAC duct sealant		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	rubbery material, gray	No Asbestos Detected
25842.000-0017	Glued-on Ceiling Tiles (01)	Office men's restroom; 1' by 1' waste wood fiber ceiling tile with brown mastic		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	Tan wooden compressed fibrous material with paint	No Asbestos Detected
		Layer 2	Brown brittle mastic	No Asbestos Detected
		Layer 3	Beige fibrous material	No Asbestos Detected
25842.000-0018	Mastic (02)	Office southwest office; yellow carpet mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	mastic, yellow/gray	No Asbestos Detected
25842.000-0019	Ceramic Tile/Grout (01)	Main hall custodial room; ceramic block wall and mortar		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	granular compact powder, gray	No Asbestos Detected
		Layer 2	granular compact powder, orange/off-white	No Asbestos Detected
25842.000-0020	Ceramic Tile/Grout (02)	Main hall custodial room; ceramic tile floor and grout		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	hard compact powder, gray	No Asbestos Detected
		Layer 2	hard compact powder, tan	No Asbestos Detected
25842.000-0021	Gypsum Wallboard/Joint Compound (03)	Main hall custodial room; gypsum and joint compound ceiling		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	fine compact powder, off-white, with paint, gray	3% Chrysotile
		Layer 2	compact chalky material with paper, white	No Asbestos Detected

Comments: Gravimetric reduction and point count (400) % asbestos: 0.33

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.000-0022	Glued-on Ceiling Tiles (01)	Main hall men's restroom; 1' by 1' white wood fiber ceiling tile with brown mastic		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Tan wooden compressed fibrous material with paint		No Asbestos Detected
	Layer 2	Brown brittle mastic	No Asbestos Detected		
25842.000-0023	CMU (02)	Gym hall by restrooms; tan CMU and mortar		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	granular compact powder, tan/brown/red		No Asbestos Detected
	Layer 2	granular compact powder, tan	No Asbestos Detected		
25842.000-0024	Mechanical Isolation Cloth (01)	Mechanical stage area; over restrooms, gray mechanical cloth		Lab Cor	
		Layer:	Description:		Analysis:
	Layer 1	woven fibers, gray	No Asbestos Detected		
25842.000-0025	Vinyl Floor Tile (04)	Stage store room; 9" brown vinyl floor tile and black mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	vinyl, reddish brown		4% Chrysotile
	Layer 2	mastic, black	5% Chrysotile		
25842.000-0026	Insulating Cement (01)	Mechanical room; over stage store room, HVAC ductwork fiberglass insulation and ACM cement		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	loose fibrous material, yellow		No Asbestos Detected
	Layer 2	woven fibers, off-white	No Asbestos Detected		
25842.000-0027	Vinyl Floor Tile (05)	Far southeast classroom; 12" gray vinyl floor tile with black mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	vinyl, gray		No Asbestos Detected
	Layer 2	mastic, black	2% Chrysotile		
25842.000-0028	Vinyl Floor Tile (06)	Far southeast classroom; 9" brown wall tile with brown mastic		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Tan tile		6% Chrysotile
	Layer 2	Brown brittle mastic	No Asbestos Detected		

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.000-0029	Covebase/Mastic (03)	Far southeast classroom; 4" gray covebase with white mastic		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	flexible material, gray	No Asbestos Detected	
	Layer 2	mastic, off-white/tan	No Asbestos Detected	
	Layer 3	mastic, brown	No Asbestos Detected	
25842.000-0030	Glued-on Ceiling Tiles (02)	Far southeast classroom; 1' by 1' white wood fiber wall tile with brown mastic		NVL Labs, Inc.
	Layer:	Description:	Analysis:	
	Layer 1	Tan compressed fibrous material with white coating	No Asbestos Detected	
	Layer 2	Brown brittle mastic	No Asbestos Detected	
25842.000-0031	Gypsum Wallboard (01)	Far southeast classroom; gypsum ceiling board		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	chalky material, light gray, with fibrous backing	No Asbestos Detected	
25842.000-0032	Glued-on Ceiling Tiles (03)	Far southeast classroom; 1' by 1' white wood fiber ceiling tile with brown mastic		NVL Labs, Inc.
	Layer:	Description:	Analysis:	
	Layer 1	Tan wooden compressed fibrous material with white paint	No Asbestos Detected	
	Layer 2	Brown brittle mastic	No Asbestos Detected	
25842.000-0033	Siding (01)	Boiler room; exterior, siding board		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	paint, white	No Asbestos Detected	
	Layer 2	compressed fibers, tan	No Asbestos Detected	
25842.000-0034	Window Glazing Compound (01)	Southeast classroom exterior; gray window glazing		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	hard compact powder, light gray	<1% Chrysotile	
25842.000-0035	Caulk (02)	Southeast classroom exterior; gray window frame caulk		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	hard compact material, gray	8% Chrysotile	



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BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0001		Sample ID: S1			Date Analyzed: 02/21/2019		
Client Sample Description:					Analyst: Stephanie Golden		
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01							
rubbery coating, white	10 %	-	-	-		NAD	
Layer 02							
cementitious material, gray	90 %	-	-	-		NAD	
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	-	100 %
Layer 02	-	-	-	-	-	-	100 %

Client Sample ID: 25842.000-0002		Sample ID: S2			Date Analyzed: 02/21/2019		
Client Sample Description:					Analyst: Stephanie Golden		
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01							
ceramic material, red	40 %	-	-	-		NAD	
Layer 02							
cementitious material, gray	60 %	-	-	-		NAD	
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	-	100 %
Layer 02	-	-	-	-	-	-	100 %

Client Sample ID: 25842.000-0003		Sample ID: S3			Date Analyzed: 02/21/2019		
Client Sample Description:					Analyst: Stephanie Golden		
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Homogeneous							
granular cement material, brown	100 %	-	-	-		NAD	
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	-	-	-	-	-	100 %



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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0004	Sample ID: S4	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous paint, silver	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		

Client Sample ID: 25842.000-0005	Sample ID: S5	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous cementitious material, off-white	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		

Client Sample ID: 25842.000-0006	Sample ID: S6	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01 mastic, tan	3 % - - -		NAD
Layer 02 vinyl, gray	96 % - - -		NAD
Layer 03 mastic, black	1 % 2 % - -		2 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -		100 %
Layer 02	- - - - -		100 %
Layer 03	- - - - -		98 %



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Client: PBS Engineering and Environmental
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Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

<u>Client Sample ID:</u>	25842.000-0007		<u>Sample ID:</u>	S7		<u>Date Analyzed:</u>	02/21/2019		<u>Analyst:</u>	Stephanie Golden		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							Percent Asbestos:
Layer 01												
mastic, yellow	5 %	-	-	-	-							NAD
Layer 02												
hard vinyl, tan	93 %	4 %	-	-	-							4 %
Layer 03												
mastic, black	2 %	3 %	-	-	-							3 %
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
Layer 01	-	-	-	-	-							100 %
Layer 02	-	-	-	-	-							96 %
Layer 03	-	-	-	-	-							97 %

<u>Client Sample ID:</u>	25842.000-0008		<u>Sample ID:</u>	S8		<u>Date Analyzed:</u>	02/21/2019		<u>Analyst:</u>	Stephanie Golden		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							Percent Asbestos:
Layer 01												
rubbery material, gray	92 %	-	-	-	-							NAD
Layer 02												
mastic, yellow/tan	8 %	-	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
Layer 01	-	-	-	-	-							100 %
Layer 02	-	-	-	-	-							100 %

<u>Client Sample ID:</u>	25842.000-0010		<u>Sample ID:</u>	S9		<u>Date Analyzed:</u>	02/21/2019		<u>Analyst:</u>	Stephanie Golden		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							Percent Asbestos:
Homogeneous												
compressed fibrous material, tan with paint, white	100 %	-	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
	5 %	55 %	5 %	-	-							20 %
												Perlite 15 %

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4412 SW Corbett Avenue
Portland, OR 97239**Report Number:** 190983R01
Report Date: 02/21/2019**Job Number:** 190983**P.O. No:** n/a**Project Name:****Project Number:** 25842.000 Phase 0001**Project Notes:**

Client Sample ID: 25842.000-0012	Sample ID: S10	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
			Crocidolite
			Percent Asbestos:
Layer 01			
fine compact powder, off-white	5 %	Trace	- -
			< 1 %
Layer 02			
paper backing, off-white	8 %	-	- -
			NAD
Layer 03			
fine compact powder, off-white	5 %	Trace	- -
			< 1 %
Layer 04			
compact chalky material with paper, white	82 %	-	- -
			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
			Matrix
Layer 01	-	-	- - -
			100 %
Layer 02	-	100 %	- - -
			0 %
Layer 03	-	-	- - -
			100 %
Layer 04	-	5 %	- - -
			95 %

Client Sample ID: 25842.000-0013	Sample ID: S11	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
			Crocidolite
			Percent Asbestos:
Layer 01			
mastic, yellow	2 %	-	- -
			NAD
Layer 02			
hard vinyl, black	98 %	-	- -
			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
			Matrix
Layer 01	-	-	- - -
			100 %
Layer 02	-	-	- - -
			100 %

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4412 SW Corbett Avenue
Portland, OR 97239**Report Number:** 190983R01
Report Date: 02/21/2019**Job Number:** 190983**P.O. No:** n/a**Project Name:****Project Number:** 25842.000 Phase 0001**Project Notes:**

Client Sample ID: 25842.000-0014	Sample ID: S12	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01 fine compact powder, white with paint, off-white	5 % - - -		NAD
Layer 02 paper backing, off-white	8 % - - -		NAD
Layer 03 fine compact powder, white	7 % - - -		NAD
Layer 04 compact chalky material with paper, white	80 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -		100 %
Layer 02	- 100 % - - -		0 %
Layer 03	- - - - -		100 %
Layer 04	- 5 % - - -		95 %

Client Sample ID: 25842.000-0016	Sample ID: S13	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous rubbery material, gray	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- - - - -		100 %

Client Sample ID: 25842.000-0018	Sample ID: S14	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous mastic, yellow/gray	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- 2 % - - -		98 %



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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

<u>Client Sample ID:</u>	25842.000-0019		<u>Sample ID:</u>	S15		<u>Date Analyzed:</u>	02/21/2019		<u>Analyst:</u>	Tim Cammann	
<u>Client Sample Description:</u>											
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite				Percent Asbestos:			
Layer 01											
granular compact powder, gray	20 %	-	-	-							NAD
Layer 02											
granular compact powder, orange/off-white	80 %	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix			
Layer 01	-	-	-	-	-	-	-	100 %			
Layer 02	-	-	-	-	-	-	-	100 %			

<u>Client Sample ID:</u>	25842.000-0020		<u>Sample ID:</u>	S16		<u>Date Analyzed:</u>	02/21/2019		<u>Analyst:</u>	Tim Cammann	
<u>Client Sample Description:</u>											
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite				Percent Asbestos:			
Layer 01											
hard compact powder, gray	10 %	-	-	-							NAD
Layer 02											
hard compact powder, tan	90 %	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix			
Layer 01	-	-	-	-	-	-	-	100 %			
Layer 02	-	-	-	-	-	-	-	100 %			



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4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0021		Sample ID: S17			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:		Analyst: Tim Cammann					
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite			
Layer 01							
fine compact powder, off-white, with paint, gray	75 %	3 %	-	-	3 %		
Layer 02							
compact chalky material with paper, white	25 %	-	-	-	NAD		
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
Layer 01	-	6 %	-	-	-	91 %	
Layer 02	-	15 %	-	-	-	85 %	

Client Sample ID: 25842.000-0023		Sample ID: S18			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:		Analyst: Tim Cammann					
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite			
Layer 01							
granular compact powder, tan/brown/red	50 %	-	-	-	NAD		
Layer 02							
granular compact powder, tan	50 %	-	-	-	NAD		
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
Layer 01	-	-	-	-	-	100 %	
Layer 02	-	-	-	-	-	100 %	

Client Sample ID: 25842.000-0024		Sample ID: S19			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:		Analyst: Ellie Brown					
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite			
Homogeneous							
woven fibers, gray	100 %	-	-	-	NAD		
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
	-	-	-	-	-	100 %	



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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
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Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0025		Sample ID: S20			Date Analyzed: 02/21/2019	
Client Sample Description:					Analyst: Ellie Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01						
vinyl, reddish brown	90 %	4 %	-	-		4 %
Layer 02						
mastic, black	10 %	5 %	-	-		5 %
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	96 %
Layer 02	-	Trace	-	-	Wollastonite 2 %	93 %

Client Sample ID: 25842.000-0026		Sample ID: S21			Date Analyzed: 02/21/2019	
Client Sample Description:					Analyst: Ellie Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01						
loose fibrous material, yellow	70 %	-	-	-		NAD
Layer 02						
woven fibers, off-white	30 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	100 %	-	-	0 %
Layer 02	-	100 %	-	-	-	0 %

Client Sample ID: 25842.000-0027		Sample ID: S22			Date Analyzed: 02/21/2019	
Client Sample Description:					Analyst: Ellie Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01						
vinyl, gray	90 %	-	-	-		NAD
Layer 02						
mastic, black	10 %	2 %	-	-		2 %
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	Trace	-	-	-	98 %

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4412 SW Corbett Avenue
Portland, OR 97239**Report Number:** 190983R01
Report Date: 02/21/2019**Job Number:** 190983**P.O. No:** n/a**Project Name:****Project Number:** 25842.000 Phase 0001**Project Notes:**

Client Sample ID: 25842.000-0029	Sample ID: S23	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Ellie Brown	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01			
flexible material, gray	94 % - - -		NAD
Layer 02			
mastic, off-white/tan	5 % - - -		NAD
Layer 03			
mastic, brown	1 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -	-	100 %
Layer 02	- 2 % - - -	-	98 %
Layer 03	- - - - -	-	100 %

Client Sample ID: 25842.000-0031	Sample ID: S24	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Ellie Brown	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous			
chalky material, light gray, with fibrous	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- 2 % - - -	-	98 %

Client Sample ID: 25842.000-0033	Sample ID: S25	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Ryan Brown	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01			
paint, white	25 % - - -		NAD
Layer 02			
compressed fibers, tan	75 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -	-	100 %
Layer 02	- 25 % - - -	-	75 %

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239**Report Number:** 190983R01
Report Date: 02/21/2019**Job Number:** 190983**P.O. No:** n/a**Project Name:****Project Number:** 25842.000 Phase 0001**Project Notes:**

Client Sample ID: 25842.000-0034	Sample ID: S26	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Ryan Brown	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous			
hard compact powder, light gray	100 % Trace - -		< 1 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		

Client Sample ID: 25842.000-0035	Sample ID: S27	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Ryan Brown	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous			
hard compact material, gray	100 % 8 % - -		8 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 92 %
	- - - - -		



190983 1/2

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: February 19, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name

ASJ 2/19/19 1445
Authorized Signature Date Time

RECEIVER

Date Received: 2/19/19

Company: Lab Cor
Address: 4321 SW Corbett Ave Ste A
Portland, OR 97239
503-224-5055

Mark D...
Name

MD 2/19/19 2:35
Authorized Signature Date Time

Table with 3 columns: Sender's ID No., Brief Description, Receiver's ID No. Rows 1-18.



190983 1/2

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

25842.000-0019		
25842.000-0020		
25842.000-0021		
25842.000-0023		
25842.000-0024		
25842.000-0025		
25842.000-0026		
25842.000-0027		
25842.000-0029		
25842.000-0031		
25842.000-0033		
25842.000-0034		
25842.000-0035		

Please analyze the enclosed 27 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: 48 Hour

SPECIAL INSTRUCTIONS:

*-Skipped sample #

[Signature]

February 20, 2019



Alex Johnson
PBS Environmental - Portland
4412 SW Corbett Ave.
Portland, OR 97239

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1903221.00

Client Project: 25842.000 Phase 0001
Location: N-A

Dear Mr. Johnson,

Enclosed please find test results for the 8 sample(s) submitted to our laboratory for analysis on 2/20/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: PBS Environmental - Portland
 Address: 4412 SW Corbett Ave.
 Portland, OR 97239

Batch #: 1903221.00

Client Project #: 25842.000 Phase 0001

Date Received: 2/20/2019

Samples Received: 8

Samples Analyzed: 8

Method: EPA/600/R-93/116
 & EPA/600/M4-82-020

Attention: Mr. Alex Johnson

Project Location: N-A

Lab ID: 19016891 Client Sample #: 25842.000-0009

Location: N-A

Layer 1 of 3	Description: Yellow brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Calcareous particles, Mastic/Binder	None Detected ND	None Detected ND	
Layer 2 of 3	Description: Brown rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Calcareous particles, Rubber/Binder	None Detected ND	None Detected ND	
Layer 3 of 3	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Mastic/Binder, Fine particles	Cellulose <1%	None Detected ND	

Lab ID: 19016892 Client Sample #: 25842.000-0011

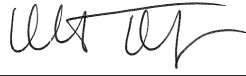
Location: N-A

Layer 1 of 2	Description: Trace brown compressed fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Binder/Filler	Cellulose 25%	None Detected ND	
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Mastic/Binder	None Detected ND	None Detected ND	

Lab ID: 19016893 Client Sample #: 25842.000-0015

Location: N-A

Layer 1 of 3	Description: Beige fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Binder/Filler	Cellulose 50%	None Detected ND	

Sampled by: Client		
Analyzed by: Alla Prysyazhnyuk	Date: 02/20/2019	
Reviewed by: Matt Macfarlane	Date: 02/20/2019	Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: PBS Environmental - Portland
 Address: 4412 SW Corbett Ave.
 Portland, OR 97239

Batch #: 1903221.00
 Client Project #: 25842.000 Phase 0001
 Date Received: 2/20/2019
 Samples Received: 8
 Samples Analyzed: 8
 Method: EPA/600/R-93/116
 & EPA/600/M4-82-020

Attention: Mr. Alex Johnson
 Project Location: N-A

Layer 2 of 3	Description: Brown brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	None Detected ND	None Detected ND
Layer 3 of 3	Description: Trace tan wooden compressed fibrous material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Wood flakes	Wood fibers 12%	None Detected ND

Lab ID: 19016894 Client Sample #: 25842.000-0017

Location: N-A

Layer 1 of 3	Description: Tan wooden compressed fibrous material with paint	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Paint, Wood flakes	Wood fibers 86%	None Detected ND
Layer 2 of 3	Description: Brown brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	None Detected ND	None Detected ND
Layer 3 of 3	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler	Cellulose 10%	None Detected ND

Lab ID: 19016895 Client Sample #: 25842.000-0022

Location: N-A

Layer 1 of 2	Description: Tan wooden compressed fibrous material with paint	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Paint, Wood flakes	Wood fibers 93%	None Detected ND
Layer 2 of 2	Description: Brown brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	None Detected ND	None Detected ND

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 02/20/2019
Reviewed by: Matt Macfarlane **Date:** 02/20/2019 *[Signature]*
 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: PBS Environmental - Portland
 Address: 4412 SW Corbett Ave.
 Portland, OR 97239

Batch #: 1903221.00
 Client Project #: 25842.000 Phase 0001
 Date Received: 2/20/2019
 Samples Received: 8
 Samples Analyzed: 8
 Method: EPA/600/R-93/116
 & EPA/600/M4-82-020

Attention: Mr. Alex Johnson
 Project Location: N-A

Lab ID: 19016896 Client Sample #: 25842.000-0028

Location: N-A

Layer 1 of 2	Description: Tan tile			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Binder/Filler, Calcareous particles, Mineral grains	None Detected ND		Chrysotile 6%
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Mastic/Binder	Wollastonite 2%		None Detected ND

Lab ID: 19016897 Client Sample #: 25842.000-0030

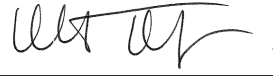
Location: N-A

Layer 1 of 2	Description: Tan compressed fibrous material with white coating			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 65%		None Detected ND
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Mastic/Binder	Wollastonite 2%		None Detected ND
		Talc fibers 2%		

Lab ID: 19016898 Client Sample #: 25842.000-0032

Location: N-A

Layer 1 of 2	Description: Tan wooden compressed fibrous material with white paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Binder/Filler, Paint, Wood flakes	Wood fibers 70%		None Detected ND
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Mastic/Binder	None Detected ND		None Detected ND

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 02/20/2019
Reviewed by: Matt Macfarlane **Date:** 02/20/2019 
 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Portland	NVL Batch Number 1903221.00
Address 4412 SW Corbett Ave. Portland, OR 97239	TAT 2 Days AH No
Project Manager Mr. Alex Johnson	Rush TAT
Phone (503) 248-1939	Due Date 2/22/2019 Time 10:35 AM
	Email alex.johnson@pbsusa.com
	Fax (503) 248-0223

Project Name/Number: 25842.000 Phase 0001	Project Location: N-A
--	------------------------------

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 8 **Rush Samples** _____

Lab ID	Sample ID	Description	A/R
1	19016891	25842.000-0009	A
2	19016892	25842.000-0011	A
3	19016893	25842.000-0015	A
4	19016894	25842.000-0017	A
5	19016895	25842.000-0022	A
6	19016896	25842.000-0028	A
7	19016897	25842.000-0030	A
8	19016898	25842.000-0032	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	ups				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	2/20/19	1035
Analyzed by	Alla Prsyazhnyuk		NVL	2/20/19	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 2/20/2019
 Time: 11:12 AM
 Entered By: Soumeya Benzina



1903221

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: February 19, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name

[Signature] 2/19/19 1445
Authorized Signature Date Time

RECEIVER

Date Received: 2/20/19

Company: NVL Labs. Inc.
Address: 4708 Aurora Ave. North
Seattle, WA 98103
(206)547-0100

[Signature]
Name

[Signature] 2/20 1085 vps
Authorized Signature Date Time

Sender's ID No.	Brief Description	Receiver's ID No.
25842.000-0009	_____	_____
25842.000-0011	_____	_____
25842.000-0015	_____	_____
25842.000-0017	_____	_____
25842.000-0022	_____	_____
25842.000-0028	_____	_____
25842.000-0030	_____	_____
25842.000-0032	_____	_____

Please analyze the enclosed 8 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: 48 Hour

SPECIAL INSTRUCTIONS:

[Signature]



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
http://www.labcorpdx.net

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 191072R01
Report Date: 02/27/2019

Job Number: 191072

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

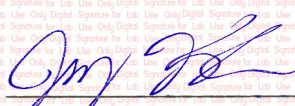
Client Sample ID: 25842.000-0021	Sample ID: S1	Date Analyzed: 02/27/2019	
Client Sample Description:		Analyst: Joseph Kulm	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous			
fine compact powder, gray	100 % 0.33 % - -		0.33 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- - - - -		99.67 %

Comments: Gravimetric reduction performed on sample. GRR value is 0.334

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:
1% asbestos: >0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

Reviewed by:

Digital Signature for Lab Use Only

Joseph Kulm
Analyst

191072

LabCor Portland, Inc.

PBS Request for Extended/ Additional Analyses

Please use this form for samples that require additional analysis. This should only be used for samples LabCor already has received and reported.

Primary Contact: Alex Johnson (person requesting additional analysis)	Project Manager: James Mastanduno Contact Project Manager?: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	---

LabCor Report No.: 1 9 0 9 8 3	PBS Project #: 2 5 8 4 2 0 0 0	Ph. #: 0 0 0 1
---------------------------------------	---------------------------------------	-----------------------

Client Sample Numbers to be Analyzed:


Sample Number	Layer (if applicable)
- 0 0 2 1	
-	
-	
-	
-	
-	


Select One:

Select One:

			Turnaround	Price
<input type="checkbox"/>	Composite Analysis	Percent asbestos is recalculated with regards to the entire sample. The report shows layer percent, and percent asbestos present in the total sample received. There is no charge for this, as we just select a certain option when running a report. This can also be requested along with original analysis, so the report automatically shows the composite results for the requested samples.	Same Day	NA
<input checked="" type="checkbox"/>	Gravimetric/ Composite 400 Point Count	"Composite by weight". The entire sample gravimetrically reduced by ashing and acid dissolution and a 400-field point count is performed on what is left. The percent of asbestos present is calculated based on points counted with the gravimetric reduction ratio applied.	<input type="radio"/> 24 hours <input checked="" type="radio"/> 2 days <input type="radio"/> 3 days <input type="radio"/> 5 days	\$105.00 \$90.00 \$80.00 \$60.00
<input type="checkbox"/>	400 Point Count	A 400-field point count is performed on a single layer within a sample with no gravimetric reduction.	<input type="radio"/> 4 hours <input type="radio"/> 8 hours <input type="radio"/> 24 hours <input type="radio"/> 2 days <input type="radio"/> 3 days	\$85.00 \$75.00 \$55.00 \$40.00 \$38.00

Turnaround times begin only when a Lab/Cor PLM analyst approves this request by initialing below and returns the form to the chain of custody contact. By initialing and dating below Lab/Cor accepts the analysis request and will provide the client with the approved analyses within the stated turnaround time.

Request Authorized by:  Date Requested: 2/25/2019

Approved Signature:  Date Approved: 2/25/19 9:35AM
(lab use only) (JL)

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.000-0036	Built-up Roofing (01)	Entryway eave roof; built-up roofing		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	coating, silver	No Asbestos Detected	
	Layer 2	flexible material, off-white	No Asbestos Detected	
	Layer 3	coating, silver, with mastic, black	4% Chrysotile	
	Layer 4	fibrous tar, black/brown, with tar, black	45% Chrysotile	
	Layer 5	fibrous tar, black/brown, with tar, black	45% Chrysotile	
	Layer 6	fibrous tar, black/brown, with tar, black	45% Chrysotile	
	Layer 7	fibrous tar, black/brown, with tar, black	45% Chrysotile	
25842.000-0037	Built-up Roofing (02)	Curbing; around office HVAC unit, built-up roofing		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	coating, silver	No Asbestos Detected	
	Layer 2	fibrous tar, black/brown	No Asbestos Detected	
	Layer 3	fibrous tar, black/gray	No Asbestos Detected	
	Layer 4	foam, off-white	No Asbestos Detected	
25842.000-0038	Cement Asbestos Board (01)	Gym roof; cement asbestos board roof panels and tar paper		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	hard compact material, gray, with coating, off-white	18% Chrysotile	
	Layer 2	compressed fibers, brown/black	No Asbestos Detected	



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
<http://www.labcorpdx.net>

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 191624R01
Report Date: 03/27/2019

Job Number: 191624

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0036

Sample ID: S1

Date Analyzed: 03/27/2019

Client Sample Description:

Analyst: Tim Cammann

Asbestos Mineral Fibers

	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
Layer 01 coating, silver	7 %	-	-	-	NAD
Layer 02 flexible material, off-	15 %	-	-	-	NAD
Layer 03 coating, silver, with mastic, black	15 %	4 %	-	-	4 %
Layer 04 fibrous tar, black/brown, with tar, black	15 %	45 %	-	-	45 %
Layer 05 fibrous tar, black/brown, with tar, black	15 %	45 %	-	-	45 %
Layer 06 fibrous tar, black/brown, with tar, black	15 %	45 %	-	-	45 %
Layer 07 fibrous tar, black/brown, with tar, black	18 %	45 %	-	-	45 %

Other Fibers

	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	8 %	-	-	-	92 %
Layer 02	-	-	-	-	-	100 %
Layer 03	-	2 %	-	-	-	94 %
Layer 04	-	10 %	-	-	-	45 %
Layer 05	-	10 %	-	-	-	45 %
Layer 06	-	10 %	-	-	-	45 %
Layer 07	-	10 %	-	-	-	45 %



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
<http://www.labcorpdx.net>

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 191624R01
Report Date: 03/27/2019

Job Number: 191624

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0037		Sample ID: S2			Date Analyzed: 03/27/2019	
Client Sample Description:					Analyst: Tim Cammann	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01 coating, silver	10 %	-	-	-	NAD	
Layer 02 fibrous tar, black/brown	40 %	-	-	-	NAD	
Layer 03 fibrous tar, black/gray	20 %	-	-	-	NAD	
Layer 04 foam, off-white	30 %	-	-	-	NAD	
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	6 %	-	Trace	-	94 %
Layer 02	Trace	25 %	-	Trace	-	75 %
Layer 03	-	98 %	-	-	-	2 %
Layer 04	-	-	-	-	-	100 %

Client Sample ID: 25842.000-0038		Sample ID: S3			Date Analyzed: 03/27/2019	
Client Sample Description:					Analyst: Tim Cammann	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01 hard compact material, gray, with coating, off-white	50 %	18 %	-	-	18 %	
Layer 02 compressed fibers, brown/black	50 %	-	-	-	NAD	
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	Trace	-	-	-	82 %
Layer 02	-	100 %	-	-	-	0 %

<u>Code</u>	<u>Material</u>	<u>Analysis</u>	<u>Location</u>	<u>Lab</u>
PAINT				
LB25842.000-1001	Paint	710 ppm	Boiler room; wall, CMU, white, good condition	R.J. Lee Group
LB25842.000-1002	Paint	<200 ppm	Office main hall; wall, gypsum, off-white, good condition	R.J. Lee Group
LB25842.000-1003	Paint	1,200 ppm	Main hall custodial room; door frame, wood, tan, fair condition	R.J. Lee Group
LB25842.000-1004	Paint	800 ppm	Stage storage room; door frame, wood, white, fair condition	R.J. Lee Group

LABORATORY REPORT

 PBS Engineering & Environmental
 4412 Southwest Corbett Ave.
 Portland, OR 97239

 Attn: Alex Johnson
 Phone: 503-248-1939

Email: alex.johnson@pbsusa.com

 RJ Lee Group Job No.: PA200220190009
 Samples Received: February 20, 2019
 Report Date: February 22, 2019
 Client Project: 25842.000 Phase 0001
 Purchase Order No.: N/A
 Matrix: Solid
 Prep/ Analysis: EPA 3050B / EPA 7000B-Paint

Client Sample ID	RJ Lee Group ID	Sampling Date	Analyte	Sample Concentration		Minimum Reporting Limit		Analysis Date	Q
				Weight Percent (%)	Parts per Million (PPM) - mg/kg	Weight Percent (%)	Parts per Million (PPM) - mg/kg		
LB25842.000-1001	PA200220190009-001	NP	Lead	0.071	710	0.014	140	2/22/2019	AN
LB25842.000-1002	PA200220190009-002	NP	Lead	< 0.020	< 200	0.020	200	2/22/2019	AN
LB25842.000-1003	PA200220190009-003	NP	Lead	0.12	1200	0.020	200	2/22/2019	AN
LB25842.000-1004	PA200220190009-004	NP	Lead	0.080	800	0.012	120	2/22/2019	AN

Comments:
Report Qualifiers (Q):

P : PA-DEP Accredited (PA DEP Lab ID 02-00396, NELAP)
N : NY ELAP Accredited (NY ELAP Lab Code 10884)
C : CA ELAP Accredited (CA ELAP Certificate 1970)
A : AIHA-LAP, LLC Accredited (Lab ID 100364)

E = Value above highest calibration standard
J = Value below lowest calibration standard but above MDL (Method Detection Limit)
L = LCS (Laboratory Control Standard)/SRM (Standard Reference Material) recovery outside accepted recovery limits
H = Holding times for preparation or analysis exceeded

B = Analyte detected in the associated Method Blank
S = Spike Recovery outside accepted limits
R = RPD (relative percent difference) outside accepted limits
D = RL (reporting limit verification) outside accepted limits
NP = Not Provided

— : Test (analyte-matrix-preparation-analysis) is performed under RJLG's General Quality System requirements and is not part of any of the above scopes of accreditations

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of thirty (30) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

This laboratory operates in accord with ISO 17025:2005 guidelines, and holds a limited scope of accreditations under different accrediting agencies; refer to <http://www.rjlg.com/about-us/accreditations/> for more information and current status. Unless it is specifically stated otherwise (under the Q column using the appropriate accrediting agency qualifier(s)) the work contained in this report is performed under RJLG's General Quality System requirements and is not part of any scope of accreditations. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or to the sample(s) as received by the laboratory. Any reproduction of this document must be in full for the report to be valid.

Unless otherwise noted (either in the comments section of the report and/or with the appropriate qualifiers under the report qualifiers (Q) column) the following apply: (a) Samples were received in good condition, (b) All QC samples are within acceptable established limits, (c) All samples designated as NELAP meet the requirements of the NELAC standard; if not applicable qualifiers will be used to designate the non-compliance and (d) Results have not been blank corrected. Quality Control data is available upon request.



 Philip Grindle
 Laboratory Supervisor



PA 200220190009

TRANSMITTAL AND CHAIN OF CUSTODY FOR LEAD BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: February 19, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name

[Signature]
Authorized Signature

2/19/19
Date

RECEIVER

Date Received: 022019 3⁰⁰

Company: R.J. Lee Group
Address: 350 Hochberg Road
Monroeville, PA 15146
724-325-1776

[Signature]
Name

[Signature]
Authorized Signature

022019
Date

Sender's ID No.	Brief Description	Receiver's ID No.
LB25842.000-1001		
LB25842.000-1002		
LB25842.000-1003		
LB25842.000-1004		

ANALYSIS REQUESTED:

LEAD:

- Paint
- Wipe
- Soil/Misc.
- Air
- TCLP

Please analyze the enclosed 4 sample(s) for LEAD content using Atomic Absorption Method. PBS requests prior notification if samples will be disposed.

Please fax and mail the results to the above address.

TURNAROUND DESIRED:
48 Hour

SPECIAL INSTRUCTIONS:

THIS IS TO CERTIFY THAT

JAMES MASTANDUNO

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

**ASBESTOS INSPECTOR / MANAGEMENT
PLANNER REFRESHER**

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 01/04/2019
Course Location: Portland, OR
Certificate: IMR-19-4993B



4-Hour AHERA Refresher Training

Expiration Date: 01/04/2020

For verification of the authenticity of this
certificate contact:
PBS Environmental
4412 SW Corbett Avenue
Portland, OR 97239
(503) 248-1939

A handwritten signature in black ink, appearing to read 'Gregory M. Baker', is written over a horizontal line.

Greg Baker, Instructor

Asbestos Abatement Closeout Report

Dufur School
802 NE 5th Street, Dufur, Oregon

Prepared for:
Dufur School District
802 NE 5th Street
Dufur, Oregon 97201

November 7, 2019
PBS Project 25842.000



4412 SW CORBETT AVENUE
PORTLAND, OR 97239
503.248.1939 MAIN
866.727.0140 FAX
PBSUSA.COM

Project Closeout Report

For

Dufur School District

This closeout report is for the exclusive use of the client and is not to be photographed, photocopied, or similarly reproduced, in total or in part, without the express written consent of the client and/or PBS Engineering and Environmental Inc.

Prepared by:

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, Oregon 97239



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Project Summary

1 INTRODUCTION

From June 5 to 14, 2019, PBS Engineering and Environmental Inc. (PBS) conducted air monitoring and project oversight during asbestos abatement at Dufur School in Dufur, Oregon. Abatement was conducted in support of renovations to the school and was completed by Performance Abatement Services of Vancouver, Washington.

The following approximate quantities of asbestos-containing materials (ACM) were removed from the building:

Boiler Room:

- Boiler jacket insulation – 400 square feet (SF)
- Pipe insulation – 180 linear feet (LF)
- Fire door – 1 each (EA)

Office:

- Vinyl floor tile and mastic on concrete under carpet – 2,000 SF

Stage mechanical loft areas:

- Tank jacket insulation – 130 SF
- Insulation and mastic with fiberglass duct insulation – 200 SF
- Pipe insulation – 80 LF (wrap/cut)

Classroom:

- Vinyl floor tile and mastic on concrete – 500 SF
- Vinyl wall tile and mastic – 20 SF
- Cement asbestos board exterior eaves – 200 SF
- Window glazing and caulking around window frame – 250 SF

Front entryway:

- Cement asbestos board exterior eaves – 1,500 SF

2 BULK SAMPLING DURING PROJECT

PBS collected one bulk sample of building materials during the construction phase. Leveling compound below asbestos-containing flooring in the classroom work area was found to be non-asbestos. The sample was collected by an Asbestos Hazard Emergency Response Act (AHERA) accredited inspector and submitted under chain of custody to Labcor Portland of Portland, Oregon, for polarized light microscopy (PLM) analysis. Bulk sample results are attached.

3 ENGINEERING CONTROLS AND WORK PRACTICES

Interior asbestos removal occurred within negative-pressure enclosures that included a negative air machine and a decontamination chamber with z-flaps. Critical barriers were erected over doorways, windows, and vents using plastic sheeting and duct tape. The immediate work areas were regulated by placing signs at all entrances. Removal of eaves and windows took place within regulated work areas in compliance with removal of exterior non-friable materials.

Once the areas were isolated, wet and manual methods were used to remove ACM. Workers wore boots, gloves, Tyvek coveralls, half-face negative pressure air purifying respirators, and other personal protective equipment, as appropriate.

All ACM were placed in double-bags or drums prior to removal and labeled in accordance with Oregon Department of Environmental Quality (DEQ) standards. ACM and contaminated building components were disposed of at a DEQ-approved landfill in Wasco, Oregon.

All asbestos abatement was performed in compliance with applicable federal, state, and local regulations, project specifications, and contractual obligations.

4 VISUAL INSPECTIONS AND AIR SAMPLING

A PBS Asbestos Hazard Emergency Response Act (AHERA) certified inspector performed visual inspections of the work areas during abatement and a final visual inspection after removal of the ACM. Spaces immediately adjacent to the work areas were also visually inspected to monitor the integrity of the enclosure, identify potential problems, and mitigate them if necessary.

PBS performed ambient air monitoring in adjacent spaces during abatement. Air sample analysis revealed that the enclosures successfully contained dust. The abatement contractor was responsible for Occupational Safety and Health Administration (OSHA) compliance for personal exposure monitoring.

For the south stage, classroom, boiler room, and office work areas, PBS collected clearance air samples using aggressive methods. The samples were sent to Lab/Cor Portland Inc. of Portland, Oregon, for transmission electron microscopy (TEM) analysis by National Institute of Occupational Safety and Health (NIOSH) Method 7402. Laboratory analysis for the classroom, boiler room, and office work areas indicated that airborne fiber concentrations were below the Environmental Protection Agency (EPA) AHERA clearance standard of 70 structures per square millimeter, indicating passed air clearance events. Initial clearance sampling for the south stage loft work area was above the EPA clearance standard, indicating a failed clearance. The contractor recleaned the work area and a second clearance sample set was taken, which passed clearance.

For the south stage work area, PBS collected phase contrast microscopy (PCM) air clearance samples from at completion of abatement. Due to the limited nature of abatement in that area, TEM analysis was not required. All of the PCM air samples were analyzed using National Institute of Occupational Safety and Health Method 7400. The results of all post-abatement PCM air samples were below Oregon DEQ's clearance standard of 0.01 fibers per cubic centimeter as outlined in Oregon Administrative Rule 340 Division 248. The abatement area passed air clearance testing.

Clearance results were communicated to all appropriate parties.

All asbestos-containing waste was disposed of at Wasco County landfill in accordance with local and government regulations. Air monitoring analytical reports are included in Appendix B.

5 CERTIFICATION

PBS compiled this report consistent with the project scope and certifies that the information is correct and accurate within the standards of professional quality and contractual obligations.

Signature	Date
James Mastanduno Project Manager	

Appendix A

Project Communication
Field Observation Reports



FIELD OBSERVATION REPORT

Project Name: Dufur School
 Project No./Phase/Task: 25842.000 / 0003
 PBS Site Observer: Brian W.
 PBS Project Manager: James Mastanduno
 Project Description (brief):
Removal of ACM in 4 locations of school

Contractor: PAS
 Contractor Supervisor: Robert Johnson
 Number of Workers: 13
 Other Personnel On Site: Bremik Construction
 Date: 6-5-2019 Time: 09:00 AM PM
 Weather: Partly cloudy Temp.: 70 F°

Concern or Action Item? Yes No

If 'Yes,' describe:

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

8:00 PAS, Bremik, PBS on site. Project Heads of school, construction, abatement teams, PBS did a walk through of school and looked at all locations where abatement is to occur. PAS crew started load in of equipment and began to build containments in the boiler room and Stage mechanical areas (north and south).

9:00 James and myself discussed questions we have for Josh (Bremik Superintendent) an Scott (Straightline Architecture) about extent of API removal, Access to floor tile under cabinets and wall in office, how far API needs to be removed into tunnel in boiler room.

10:15 PAS continues to build containments in Stage mech rooms and Boiler room.

11:20 PAS has most of the poly walls and floor done in boiler room, working on the decon and running Negative air tubes out of building. Stage mech areas same progress as boiler room.

12:00 PAS to Lunch

12:30 PBS to Lunch

13:00 Both PBS and PAS back from lunch. PAS building decon and containment for both Stage mech areas and Boiler room. Still waiting to talk with Josh and Scott.

14:17 PAS is continuing on putting up containment plan on having a visual walk through before end of day so abatement can start tomorrow first thing after safety meeting. Robert from PAS showed me in the boys locker room where the clean water for Stage mech areas was coming from and where the Negative air tubes would be leading to outside. Same for the boiler room containment, Negative air tube to be running out north boiler room door.

14:35 Met with Josh (Bremik) and Scott (Straightline) and Kalie (Bremik on site Manager) All API is in both containments in Stage mech areas along with Boiler room is to be wrapped / cut completely removing all of the pipe and insulation. Ends of exposed pipe to be encapsulated with dip lag and sealed. when office renovation starts PAS has go ahead to do lite demo on was to access and floor tile underneath wall or cabinets. All CAB school entrance eave to be removed.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 6-5-19

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 6-5-2019 Time: 09:00 AM PM
Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

14:50 Did visual of Boiler room containment, pointed out a few places that needed attention. Daniel supervisor in Boiler room, had his crew tend to spots i noted. 3 stage decon okay-ed, both negative air machines have fresh filters, manometer plugged in and running at proper levels. water source coming from janitor closet.

15.10 Visual passed in boiler room okay-ed to start abatement. 6 crew members getting suited up in PPE : Half face respirators, full Tyvek, safety glasses and gloves. 1 crew member to remain outside for load of sealed bags to be put into containment barrels. Stage mech rooms almost ready for visual.

15:50 Visual of both Stage mech areas, North stage okay-ed to abate. South stage needed poly on floor of the west side of tank. Once a small sheet of poly is laid down okay to abate first thing in the morning will do one more visual before work starts. 6 crew members to abate in South stage mech area Kevin is supervisor in Stage mech areas.

16:10 crew in boiler room cleaning up to suit down and come out of containment

14:30 PAS and PBS off site. Bremik still on site to lock up.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 6-5-19

Title: Industrial Hygienist



FIELD OBSERVATION REPORT

Project Name: Dufur School
 Project No./Phase/Task: 25842.000 / 0003
 PBS Site Observer: Brian W.
 PBS Project Manager: James Mastanduno
 Project Description (brief):
Removal of ACM multiple locations

Contractor: PAS
 Contractor Supervisor: Robert Johnson
 Number of Workers: 13
 Other Personnel On Site: Bremik Construction
 Date: 06-06-2019 Time: 8:30 AM PM
 Weather: Overcast Temp.: 65 F°

Concern or Action Item? Yes No

If 'Yes,' describe:

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

7:00 PAS and Bremik on site. Bremik General Contractor on site Kalie gave a safety meeting to all of PAS crew. After meeting PAS crew got ready to begin abatement in boiler room and south stage mech area. PBS got pumps ready to start once abatement started in both locations.

7:40 Pumps in boiler room started in NAM tube and outside DECON. 6 workers inside containment in Proper PPE. 1 runner outside taking double bagged material to trailer outside.

8:00 Pump started in south stage area by ladder outside DECON. 5 workers inside containment with 1 runner bring contained bags to trailer outside. Both tanks in boiler room and stage area have most of insulation removed. Pressure inside both work areas are good sitting at .020

9:10 PAS workers continue to remove insulation from boiler tank and have started removing pipes from the boiler room. while keeping everything wet to keep dust particles down workers are scrubbing the tank with wire brushes. Most of insulation on tank from south stage area has been removed as well.

9:45 Pipe to boiler (boiler room) had residual water. Roughly 2"- 3" of standing water in containment. HEPA filters will be placed over drain along with each bag when it is time to get rid of the water so there will be no contaminated water going down drains. Each filter will then be HEPA-VACed and placed into contaminated waste bags.

10:15 Tank in south stage mech area is completely free of insulation and has been scrubbed and wiped down. PAS has moved to the API and will only strip pipes not cut and bag, due to incident in boiler room. boiler room has bagged up all water that was on the floor and will store in containment till HEPA filters arrive. PAS continuing on removing pipe insulation in boiler room.

10:50 PAS cleaned up and headed out of containment for lunch. Collected OWA air samples from the morning in both areas.

12:00 PAS back from lunch. Crew to split into two teams again and return to both areas of abatement. South stage to finish up today possible visual by end of day. Samples started @12:10

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-06-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 06-06-2019 Time: 8:30 AM PM
 Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

13:10 South stage area has all API and tank insulation removed and bagged, they have done a initial scrub and clean of all pipes and tank. going to put dip lag on exposed cut pipe insulation end. They will spray everything down and do a through cleaning and wipe down of containment. Boiler room is moving along with bagging and cutting pipes in containment. 1 crew member has started building containment in Classroom (south) at SE end of building.

13:20 Started air sample at north stage mech area outside of DECON. (air volume 12.0) Pas has two crew members inside preparing to start abatement on duct insulation and API.

13.30 Talked with Kalie (Bremik) about having a plumber come out to remove toilets from staff bathroom in office where vinyl floor tile needs to be removed. PAS wants to start building containment in office on Monday.

13:50 Visual of south stage containment, removal of API and boiler tank insulation. Did not OK, found mag insulation debris on poly walls and floor. Also, mag and dust on pipes and underneath boiler tank. Pointed out to supervisor (Kevin) while inside containment and asked him to have a couple of crew members re clean entire containment.

14:20 PAS crew inside boiler room still removing pipe and insulation along with scrubbing the boiler tank. 1 crew member bringing out double bagged material to trailer. Showed the member of PAS building containment in classroom where tile and mastic need to be removed from wall.

15:05 PAS is having crew start cleaning up in all containment locations to come out and end for the day.

15:25 Started collecting all samples throughout abatement areas. At 15:40 visual of south stage mech area again after all spots pointed out were re cleaned and wiped down. Had Kevin pick wipe a few minor elbows of pipe and than gave the OK to encapsulate.

16:05 All of PAS crew is off site.

16:15 PBS off site. Basketball tournament started faculty in building to lock up when they leave tonight

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-06-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT

Project Name: Dufur School
 Project No./Phase/Task: 25842.000 / 0003
 PBS Site Observer: Brian W.
 PBS Project Manager: James Mastanduno
 Project Description (brief):

Contractor: PAS
 Contractor Supervisor: Robert Johnson
 Number of Workers: 13
 Other Personnel On Site: Bremik and faculty
 Date: 06-07-2019 Time: 8:45 AM PM
 Weather: partly cloudy Temp.: 51 F°

Concern or Action Item? Yes No

If 'Yes,' describe:

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

07:00 PBS and PAS on site walked with Robert and Kevin and showed them all of the CAB eave that need to be removed. PAS started working in boiler room and North stage mech area. Some PAS crew building containment in classroom at SE end of school. Brought all equipment need for the clearance to the front of the south stage DECON. Hauled all equipment up ladder had to run three extension chords to run fan and all pumps.

08:18 Started running clearance in south stage. Started sample outside of the DECON. Possible visual and clearance in boiler room today after lunch.

09:05 Some of PAS crew loading all bags with ACM into dumpster that showed up this morning. boiler room ins being sprayed and wiped down. North stage has 3 guys removing duct insulation and API.

09:55 PAS crew went back to building containment in classroom at the SE end of building. Boiler room in being wiped, north stage continues on duct insulation removal.

10:29 Collected TEM samples from south stage mech area going to bring the to the office at end of day. Came out of containment and did visual of boiler room and gave the OK to encapsulate. will run clearance at 13:00

11:00 PAS to lunch.

11:45 Collected sample outside boiler room DECON. PAS Robert and Bremik Kalie and i talk about duct work that will be demoed in North stage area. not a lot of clearance room from top of duct to ceiling to get strip of insulation.

12:00 PAS back from lunch guys are going to focus on strip of insulation on duct. Some of crew starting to rip out carpet in Office and build containment. 3 crew members removing CAB from front eave in full PPE and have poly down on the ground. starting at south end of eave. will take down each panel and wrap individually.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-07-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 06-07-2019 Time: 8::45 AM PM
Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

- 13:20 Started running clearance in boiler room. Work continues in office. Use microscope to read air samples on site while clearance is running. South stage mech area being cleaned and wiped down. PAS crew members inside got last of insulation on duct.
- 14:30 Robert and myself find custodian and ask him to remove cabinet in office so all of tile and mastic can be removed when abatement starts.
- 15:05 Did visual in the South stage mech area. Looked very clean, passed visual inspection, PAS will encapsulate on Monday morning. Will do a PCM clearance on Monday.
- 15:30 PAS cleaned up and off site for the weekend. went into boiler room to collect TEM clearance samples and pack up my equipment.
- 14:00 PBS off site heading to office to turn in both TEM-C samples.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-07-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT

Project Name: Dufur School
Project No./Phase/Task: 25842.000 / 0003
PBS Site Observer: Brian W.
PBS Project Manager: James Mastanduno
Project Description (brief):
Removal of ACM in multiple locations

Contractor: PAS
Contractor Supervisor: Robert Johnson
Number of Workers: 7
Other Personnel On Site: Bremik , Faculty
Date: 06-10-2019 Time: 8 AM PM
Weather: overcast Temp.: 60 F°

Concern or Action Item? Yes No

If 'Yes,' describe:

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

07:00 PBS and PAS on site. Kalie (Bremik) lead a safety meeting with PAS crew. PAS encapsulating North stage mech area will run PCM clearance around 9 today. PAS is building both containments in classroom and office.

08:00 PAS continues on building containments in both areas.

09:00 Started loading equipment up the ladder to the north stage mech area for PCM clearance. went into containment and got all set up. had a power issue. had to call Kalie while in containment to get Robert from PAS to get on set of power supply to work again.

09:50 PCM clearance started in north stage area. went to classroom at south east end of building and did visual. Gave the OK to start abatement. PAS to remove floor tile before lunch.

10:15 Pas found brown compound on floor under floor tile and mastic in classroom. Suited up and went into containment, took sample of brown compound. Robert is going to have crew remove mastic and compound down to concrete.

11:00 PAS to lunch.

11:36 Collected PCM-C samples from north stage area will read after lunch. set up pumps to run outside classroom DECON when PAS returns from lunch at 12.

12:25 Started OWA sample by classroom DECON. PBS to lunch right after sample started

13:00 PBS back from lunch, brought in microscope to read clearance samples.

13:40 Did Visual in the containment for the office. Pass visual gave OK to start abatement. PAS goin to hold off to see if clearance passes so they can tear down. 3 PAS members in classroom removing floor tile.

14:05 Told PAS PCM-C passed for the north stage containment. gave OK to tear down.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-10-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 06-10-2019 Time: 8 AM PM
Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

14:55 All of the tile in the classroom is removed from the floor. PAS is going to try and remove the mastic from leveling compound first. if its to difficult they will just remove compound along with mastic. PAS also tearing to north stage containment.

15:15 PAS crew exiting classroom containment. Cleaning up equipment taking bags full of north stage containment to dumpster. Collected sample at 15:20.

15:30 PAS and PBS off site. Faculty and Bremik still on site will close up school.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-10-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT

Project Name: Dufur School
 Project No./Phase/Task: 25842.000 / 0003
 PBS Site Observer: Brian W.
 PBS Project Manager: James Mastanduno
 Project Description (brief):

Contractor: PAS
 Contractor Supervisor: Robert Johson
 Number of Workers: 7
 Other Personnel On Site: Bremik and Faculty
 Date: 06-11-2019 Time: 08:00 AM PM
 Weather: blue bird skies Temp.: 68 F°

Concern or Action Item? Yes No

If 'Yes,' describe:

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

07:00 PBS and PAS on site. PAS has morning meeting about what to do and who is going into each containment. Brought pumps to both containments and set up.

07:30 pumps started outside both containment areas. Along with one outside in the HEPA exhaust tube # 1. Talked to Robert, PAS will stay till 17:30 today to remove the CAB from the eave out front of school.

08:25 Floor tile in the classroom is completely up, PAS working on removing all of the mastic, trying to not have to damage the leveling compound we discovered yesterday. Office crew is pulling up all carpet and starting to remove the tile from the north end of containment.

09:30 PAS continues on tile in the office, while the classroom crew is buffing the mastic off of south end of room where concrete is.

10:20 Clearance in south stage didn't pass. PAS is going to re-clean the containment and lock down again. Will run clearance after lunch again. Still waiting on results for the boiler room.

11:00 Two PAS crew re-cleaned and encapsulated south stage. Went back to the office containment to continue removing floor tile. Most of the mastic is off of floor in the classroom. tile is removed from the wall in classroom as well.

12:00 PAS to lunch. collected morning air samples. started bring equipment to south stage, up the ladder and outside DECON for clearance.

12:55 TEM-C started in the south stage mech area. PAS back from lunch. Boiler room clearance passed, relayed to Robert, will have crew tear down containment in boiler room.

13:35 PAS crew from the office is tearing down boiler room, will put lagging on exposed API. 3 PAS crew members down in the classroom grinding the floors and removing mastic from the corners of room.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-11-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 06-11-2019 Time: 08:00 AM PM
Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

14:20 PAS has cleaned up boiler room containment and is putting dip lagging on the 3 exposed ends of pipe. Classroom containment continues to remove mastic and wipe down should do a visual first thing tomorrow morning.

15:00 collected TEM-C samples from south stage area and packed up equipment.

15:30 PBS off site taking TEM's to Labcor, PAS right behind to leave site. Bremik and Faculty still on site will close up school.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-11-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT

Project Name: Dufur School
Project No./Phase/Task: 25842.000 / 0003
PBS Site Observer: Brian W.
PBS Project Manager: James Mastanduno
Project Description (brief):
removal of ACM in multiple locations

Contractor: PAS
Contractor Supervisor: Robert Johnson
Number of Workers: 6
Other Personnel On Site: Bremik and Faculty
Date: 06-12-2019 Time: 08:30 AM PM
Weather: blue bird skies Temp.: 60 F°

Concern or Action Item? Yes No

If 'Yes,' describe:

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

07:00 PAS on site, did morning meeting and stretches. PBS on site talked with Robert and Kalie about a pipe in the tunnel that needs about a foot of API removed so Bremik can cap the end. Pipe is a cold water line that needs to be turned back on for north end of building. PAS will use sealed glove bag with HEPA VAC attached.

07:35 got pumps and chords down from the south stage area. PAS is suiting up and getting ready to enter both the classroom and office containments.

08:00 Air samples started outside both areas being abated. Classroom in loading out filled, sealed and decontaminated barrels with floor tile and a mastic inside sealed bags that are inside sealed barrels.

09:00 Both containments continue working, office is moving south removing mastic. All tile removed. classroom continues on load out. Going to set up microscope and read samples collected from previous days.

10:25 Finished reading samples nothing over .002 fibers/cc. Classroom containment is wiping down and cleaning to get ready for visual after lunch.

11:00 PAS to lunch. classroom crew out of containment. Collected morning sample. office crew is going to come out at 12:00 will collect sample after they are out of containment

12:00 PAS crew in classroom back from lunch. Started afternoon sample, turn um air volume, looking to do visual before 2. PAS office crew to lunch.

13:10 PAS crew in classroom containment is wiping down should be ready for visual soon. office crew doing so clean up outside of containment will go back in at 13:30

13:45 Did visual in classroom. Multiple spots that need extra attention. PAS will re-buff the areas pointed out that need in. The filler on the floor is about 2/3 of the room and will break up if it is scaped too hard.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-12-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 06-12-2019 Time: 08:30 AM PM
Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

14:10 Talked with James about the left over mastic on concrete and filler. Mastic on floor needs to be removed and can not be there. He will discuss what to do with Kalie from Bremik and the filler in the classroom.

15:00 Met with Bremik and the District they said to tend to one area where a toilet will be going in the classroom, so they will be impacting the floor, mastic must be removed from there. Both District and Bremik gave the OK to encapsulate and leave what little is left on the filler compound.

15:45 Left classroom containment told Robert that if the corner is attended in the morning they can encapsulate after they finish load out.

15:50 Collected sample outside office DECON. Did visual in Office gave the OK to encapsulate after they load bags and equipment out.

16:18 Collected HEPA air tube sample, and packed up all equipment. will run clearance in office tomorrow morning.

16:50 PAS and PBS and Bremik off site Faculty to close up school.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-12-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 06-13-2019 Time: 07:51 AM PM
Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

11:30 Got news that the south stage clearance passed, relayed to Robert and Kalie. PAS all finished removing windows and eave from exterior classroom. installed plywood walls and ran HEPA air tube outside through the plywood. Kalie will OK if plywood walls are sufficient. Crew is packing up from equipment from south side of building.

12:00 PAS to lunch. After lunch crew will break down the south stage mech area containment. Also start removing the eaves from the front of the school.

12.28 Collected classroom TEM's and packed up all equipment.

12:45 PBS off site.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-13-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT

Project Name: Dufur School
 Project No./Phase/Task: 25842.000 / 0003
 PBS Site Observer: Brian W.
 PBS Project Manager: James Mastanduno
 Project Description (brief):

Contractor: PAS
 Contractor Supervisor: Robert Johnson
 Number of Workers: 5
 Other Personnel On Site: Bremik and Faculty
 Date: 06-14-2019 Time: 7:46 AM PM
 Weather: Sunny Temp.: 55 F°

Concern or Action Item? Yes No

If 'Yes,' describe:

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

07:00 PAS on site having morning meeting. PBS on site. PAS to remove the CAB from the front eave of school. Will lay poly on the ground, wet the CAB and remove in full panels, if possible, breaking them in half or 1/3s, wrapping and sealing in poly. Labeled with asbestos signs and tape and load pieces into their dumpster

08:00 PAS crew has put up asbestos barrier tape and is in PPE: tyveks, half-faced respirators, safety glasses, gloves and hard hats. Crew has started to remove CAB from the eave, using ladders and hammers to pull out the nails and release it from the wood beams.

08:35 One of the crew members continually sprays the board and area to keep any dust down. while two other members pick up any debris.

09:30 Clearance passed in the office. Relayed the message to Robert. PAS crew is almost done removing the eave's from front of school. Will tear down office containment after Lunch. 2nd full dumpster has left the site.

10:15 Crew is spraying down all work area beams, poly equipment, walls, windows. cleaning up any debris and putting into bags in barrels to be sealed. two crew members getting ready to start tear down of containment in office. Box truck showed up so PAS can load all equipment into truck to be taken off site.

11:05 PAS continues to load box truck with equipment and 3 crew members tearing down office containment.

12:00 PAS to Lunch.

13:00 Back from lunch still waiting to see if classroom clearance passed. PAS tearing down office and bring all equipment to trailer.

14:00 Still no news on the classroom clearance. Called Alex to see if he had any news. PAS doing sweeps of equipment and spot checks for anything left out.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-14-2019

Title: Industrial Hygienist



FIELD OBSERVATION REPORT (Continued)

Project Name: Dufur School Date: 06-14-2019 Time: 7:46 AM PM
Project No./Phase/Task: 25842.000 / 0003

ITEMS OBSERVED (WORK PRACTICES & PROCEDURES):

14:30 Still waiting on clearance PAS ready to tear down or encapsulate depending on PASS or FAIL.

15:30 classroom PASSED. PAS is tearing down and will do a clean and sweep of the room and area to make sure all equipment is gone.

14:00 PBS and PAS off site.

The individual signing below has found that the above information is complete and accurate.

Name: Brian Wehner

Authorized Signature: 

Date: 06-14-2019

Title: Industrial Hygienist

Appendix B

Asbestos Air Sample Inventory and Laboratory Reports

Sampling Description

Asbestos Air Sample Laboratory Reports

Bulk Sample Laboratory Reports



Air Sampling Description (PCM)

Air Sampling Process

Air samples are taken to determine representative fiber levels in the air as an index to the potential asbestos content of the air. Air sampling is done to ensure the safety of abatement workers and other personnel in the building, and assist in determining whether the building is safe for public occupancy after asbestos is removed. The sampler is a pump and filter cassette arrangement through which air is drawn. The fibers in the air are then deposited on the filter where they can be subsequently analyzed under a microscope.

Equipment

High-volume air sampling pumps are a.c.-powered and used when large volumes of relatively clean air need to be sampled. These pumps typically operate at flow rates of about 10 liters of air per minute. Low-volume pumps are battery operated and primarily used for personal monitoring. They operate at 1.0 to 2.5 liters per minute flow rates.

Personal Exposure Monitoring

According to OSHA, an employer must perform monitoring to determine the exposure level for each employee, or at least the exposure for each type of task on the abatement project. Breathing zone air samples are collected to represent full shift exposure. This could be one sample or a series of samples representing a period of six to seven hours or more.

Area Monitoring

Ambient air samples are collected outside of abatement work areas to detect possible elevated fiber levels as a result of abatement. Clearance samples (a type of ambient air sample) are taken prior to removing plastic isolation barriers to confirm that the space is safe to reoccupy without respiratory protection. The EPA recommended clearance level is 0.01 fiber per cubic centimeter (f/cc) of air for sample cassettes analyzed using phase contrast microscopy.

Quality Control Procedures

Air sampling pumps are calibrated before and after use to determine accurate flow rates. Microscopes are also frequently adjusted for proper operation. All equipment undergoes routine maintenance to ensure optimal functioning.

PBS analysts have completed air sampling/analysis training courses and participate in an internal quality control program, a national sample exchange program, and the American Industrial Hygiene Association's Proficiency Analytical Testing Program (PAT). This variety of quality control practices ensures the highest possible proficiency.

"Blanks" are unused filter cassettes that are periodically analyzed to determine the level of background fibers on the filters. All samples undergo chain-of-custody documentation. Records are kept of equipment calibration and maintenance.



Air Sampling Description (TEM)

Air Sampling Process

Air samples are taken to determine representative fiber levels in the air as an index to the potential asbestos content of the air. Air sampling is done to ensure the safety of abatement workers and other personnel in the building, and assist in determining whether the building is safe for public occupancy after asbestos is removed. The sampler is a pump and filter cassette arrangement through which air is drawn. The fibers in the air are then deposited on the filter where they can be subsequently analyzed under a microscope.

Equipment

High-volume air sampling pumps are a.c.-powered and used when large volumes of relatively clean air need to be sampled. These pumps typically operate at flow rates of about 10 liters of air per minute. Low-volume pumps are battery operated and primarily used for personal monitoring. They operate at 1.0 to 2.5 liters per minute flow rates.

Personal Exposure Monitoring

According to OSHA, an employer must perform monitoring to determine the exposure level for each employee, or at least the exposure for each type of task on the abatement project. Breathing zone air samples are collected to represent full shift exposure. This could be one sample or a series of samples representing a period of six to seven hours or more.

Area Monitoring

Ambient air samples are collected outside of abatement work areas to detect possible elevated fiber levels as a result of abatement. Clearance samples (a type of ambient air sample) are taken prior to removing plastic isolation barriers to confirm that the space is safe to reoccupy without respiratory protection. The EPA recommended clearance level is 0.01 fiber per cubic centimeter (f/cc) of air for sample cassettes analyzed using phase contrast microscopy. In school buildings, if materials abated exceed 160 square feet of asbestos-containing material (ACM) or 260 linear feet of ACM in a single containment, a total of five air samples are collected. The EPA clearance level is less than 70 structures per millimeter squared (<70 structures/mm²) cumulative average of the set of five samples using transmission electron microscopy.

Quality Control Procedures

Air sampling pumps are calibrated before and after use to determine accurate flow rates. Microscopes are also frequently adjusted for proper operation. All equipment undergoes routine maintenance to ensure optimal functioning.

PBS analysts have completed air sampling/analysis training courses and participate in an internal quality control program, a national sample exchange program, and the American Industrial Hygiene Association's Proficiency Analytical Testing Program (PAT). This variety of quality control practices ensures the highest possible proficiency.

"Blanks" are unused filter cassettes that are periodically analyzed to determine the level of background fibers on the filters. All samples undergo chain-of-custody documentation. Records are kept of equipment calibration and maintenance.

AIR SAMPLE ASBESTOS ANALYSIS

Client: Dufur School District #29
 802 NE 5th Street
 Dufur, OR 97021-3034
 Project: Dufur School

Report Date: 10/04/2019
 Date Received: 06/06/2019
 Client Project ID: N/A
 PBS Project No.: 25842.000 0003
 Page No.: 1 of 6

PBS LAB ID/ CLIENT ID	DATE, LOCATION WORKER NAME, ACTIVITY, PPE, ETC.	MINUTES SAMPLED	AVE. FLOW RATE (LPM)	AIR VOLUME (L)	FIBERS/ FIELDS	FIBERS PER cc (f/cc)
A25842.000-0001	6/6/2019 - Blank				0/100	0 fiber(s)
A25842.000-0002	6/6/2019 - Blank				0/100	0 fiber(s)
A25842.000-0003	6/6/2019 - HEPA exhaust North side, boiler room, negative air machine C: 5.5 fibers/100 fields	472	7 LPM	3304 L	2/100	<LOD
A25842.000-0004	6/6/2019 - Outside work area Custodian workshop, east side outside boiler room decon C: 5.5 fibers/100 fields	190	8 LPM	1520 L	4.5/100	<LOD
A25842.000-0005	6/6/2019 - Outside work area South stage, landing outside decon A: 0.006 B: 0.004 C: 0.002	175	8 LPM	1400 L	6/100	0.002 f/cc
A25842.000-0006	6/6/2019 - Outside work area South stage, landing outside decon A: 0.006 B: 0.004 C: 0.002	205	8 LPM	1640 L	7.5/100	0.002 f/cc
A25842.000-0007	6/6/2019 - Outside work area Custodian workshop, east side, outside boiler room decon A: 0.019 B: 0.01 C: 0.002	190	8 LPM	1520 L	19.5/100	0.006 f/cc
A25842.000-0008	6/6/2019 - Outside work area North stage, mechanical area outside decon A: 0.013 B: 0.007 C: 0.002	129	11 LPM	1419 L	11/100	0.004 f/cc
A25842.000-0009	6/7/2019 - Clearance-TEM South stage; south end of tank	131	9.5 LPM	1244 L	See Attached TEM Analysis Report	
A25842.000-0010	6/7/2019 - Clearance-TEM South stage; east side of tank	132	9.5 LPM	1254 L	See Attached TEM Analysis Report	

AIR SAMPLE ASBESTOS ANALYSIS

Client: Dufur School District #29
 802 NE 5th Street
 Dufur, OR 97021-3034
 Project: Dufur School

Report Date: 10/04/2019
 Date Received: 06/07/2019
 Client Project ID: N/A
 PBS Project No.: 25842.000 0003
 Page No.: 2 of 6

PBS LAB ID/ CLIENT ID	DATE, LOCATION WORKER NAME, ACTIVITY, PPE, ETC.	MINUTES SAMPLED	AVE. FLOW RATE (LPM)	AIR VOLUME (L)	FIBERS/ FIELDS	FIBERS PER cc (f/cc)
A25842.000-0011	6/7/2019 - Clearance-TEM South stage; west wall	132	9.5 LPM	1254 L	See Attached TEM Analysis Report	
A25842.000-0012	6/7/2019 - Clearance-TEM South stage; next to NAM north wall	131	9.5 LPM	1244 L	See Attached TEM Analysis Report	
A25842.000-0013	6/7/2019 - Clearance-TEM South stage; next to decon, east wall	131	9.5 LPM	1244 L	See Attached TEM Analysis Report	
A25842.000-0014	6/6/2019 - Outside work area Custodian workshop, east side, outside boiler room decon A: 0.009 B: 0.005 C: 0.002	185	8 LPM	1480 L	8/100	0.003 f/cc
A25842.000-0015	6/7/2019 - Clearance-TEM Boiler room; north side	130	9.9 LPM	1287 L	See Attached TEM Analysis Report	
A25842.000-0016	6/7/2019 - Clearance-TEM Boiler room; northeast side by tunnel	130	9.9 LPM	1287 L	See Attached TEM Analysis Report	
A25842.000-0017	6/7/2019 - Clearance-TEM Boiler room; east side next to tank	131	9.9 LPM	1297 L	See Attached TEM Analysis Report	
A25842.000-0018	6/7/2019 - Clearance-TEM Boiler room; next to decon south side	131	9.9 LPM	1297 L	See Attached TEM Analysis Report	
A25842.000-0019	6/7/2019 - Clearance-TEM Boiler room; west side, near tank	130	9.9 LPM	1287 L	See Attached TEM Analysis Report	
A25842.000-0020	6/10/2019 - Clearance North stage mechanical area, north side, under duct A: 0.031 B: 0.017 C: 0.002	106	12 LPM	1272 L	25/100	0.01 f/cc

AIR SAMPLE ASBESTOS ANALYSIS

Client: Dufur School District #29

Report Date: 10/04/2019

Date Received: 06/10/2019

Client Project ID: N/A

Project: Dufur School

PBS Project No.: 25842.000 0003

Page No.: 3 of 6

PBS LAB ID/ CLIENT ID	DATE, LOCATION WORKER NAME, ACTIVITY, PPE, ETC.	MINUTES SAMPLED	AVE. FLOW RATE (LPM)	AIR VOLUME (L)	FIBERS/ FIELDS	FIBERS PER cc (f/cc)
A25842.000-0021	6/10/2019 - Clearance North stage mechanical area, south east side, near wall A: 0.022 B: 0.012 C: 0.002	107	12 LPM	1284 L	19.5/100	0.007 f/cc
A25842.000-0022	6/10/2019 - Clearance North stage mechanical area, south side, next to negative air machine A: 0.022 B: 0.012 C: 0.002	107	12 LPM	1284 L	18/100	0.007 f/cc
A25842.000-0023	6/10/2019 - Clearance North stage mechanical area, middle of room, on top of duct A: 0.028 B: 0.016 C: 0.002	108	12 LPM	1296 L	23.5/100	0.009 f/cc
A25842.000-0024	6/10/2019 - Clearance North stage mechanical area, west, near decon A: 0.025 B: 0.014 C: 0.002	107	12 LPM	1284 L	21/100	0.008 f/cc
A25842.000-0025	6/10/2019 - Blank				0/100	0 fiber(s)
A25842.000-0026	6/10/2019 - Blank				0/100	0 fiber(s)
A25842.000-0027	6/10/2019 - Outside work area Main hallway, south side, outside classroom decon A: 0.006 B: 0.004 C: 0.002	175	8 LPM	1400 L	6.5/100	0.002 f/cc
A25842.000-0028	6/10/2019 - Outside work area Outside classroom decon, main hallway south side A: 0.003 B: 0.002 C: 0.001	265	8 LPM	2120 L	5.5/100	0.001 f/cc
A25842.000-0029	6/10/2019 - Outside work area Outside office decon, main hallway A: 0.006 B: 0.004 C: 0.001	265	8 LPM	2120 L	10/100	0.002 f/cc

AIR SAMPLE ASBESTOS ANALYSIS

Client: Dufur School District #29

Report Date: 10/04/2019

Date Received: 06/13/2019

Client Project ID: N/A

Project: Dufur School

PBS Project No.: 25842.000 0003

Page No.: 4 of 6

PBS LAB ID/ CLIENT ID	DATE, LOCATION WORKER NAME, ACTIVITY, PPE, ETC.	MINUTES SAMPLED	AVE. FLOW RATE (LPM)	AIR VOLUME (L)	FIBERS/ FIELDS	FIBERS PER cc (f/cc)
A25842.000-0030	6/11/2019 - HEPA exhaust HEPA exhaust #1, outside office window, west side of school C: 5.5 fibers/100 fields	264	7 LPM	1848 L	2/100	<LOD
A25842.000-0031	6/11/2019 - Clearance-TEM South stage, south end of tank	125	9.9 LPM	1238 L	See Attached TEM Analysis Report	
A25842.000-0032	6/11/2019 - Clearance-TEM South stage, west side of tank	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	
A25842.000-0033	6/11/2019 - Clearance-TEM South stage, north side by wall	123	9.9 LPM	1218 L	See Attached TEM Analysis Report	
A25842.000-0034	6/11/2019 - Clearance-TEM South stage, middle of containment	122	9.9 LPM	1208 L	See Attached TEM Analysis Report	
A25842.000-0035	6/11/2019 - Clearance-TEM South stage, north side between HEPA and decon	122	9.9 LPM	1208 L	See Attached TEM Analysis Report	
A25842.000-0036	6/12/2019 - Outside work area Main hallway, south end outside classroom decon A: 0.006 B: 0.004 C: 0.002	180	8 LPM	1440 L	5.5/100	0.002 f/cc
A25842.000-0037	6/12/2019 - Outside work area Main hallway, outside office decon C: 5.5 fibers/100 fields	230	7 LPM	1610 L	4.5/100	<LOD
A25842.000-0038	6/12/2019 - HEPA exhaust HEPA exhaust tube #2, west side, outside office window C: 5.5 fibers/100 fields	363	6 LPM	2178 L	1/100	<LOD

AIR SAMPLE ASBESTOS ANALYSIS

Client: Dufur School District #29

Report Date: 10/04/2019

Date Received: 06/13/2019

Client Project ID: N/A

Project: Dufur School

PBS Project No.: 25842.000 0003

Page No.: 5 of 6

PBS LAB ID/ CLIENT ID	DATE, LOCATION WORKER NAME, ACTIVITY, PPE, ETC.	MINUTES SAMPLED	AVE. FLOW RATE (LPM)	AIR VOLUME (L)	FIBERS/ FIELDS	FIBERS PER cc (f/cc)
A25842.000-0039	6/12/2019 - Outside work area Main hallway, south end outside classroom decon C: 5.5 fibers/100 fields	120	12 LPM	1440 L	3/100	<LOD
A25842.000-0040	6/12/2019 - Outside work area Main hallway, outside office decon C: 5.5 fibers/100 fields	120	10 LPM	1200 L	4.5/100	<LOD
A25842.000-0041	6/13/2019 - Clearance-TEM Office, main hallway, north end	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	
A25842.000-0042	6/13/2019 - Clearance-TEM Office hallway, in front of bathrooms	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	
A25842.000-0043	6/13/2019 - Clearance-TEM Office, middle room, in west side of room	125	9.9 LPM	1238 L	See Attached TEM Analysis Report	
A25842.000-0044	6/13/2019 - Clearance-TEM Office, second to last south room by decon	125	9.9 LPM	1238 L	See Attached TEM Analysis Report	
A25842.000-0045	6/13/2019 - Clearance-TEM Office, south room by vault and HEPA negative air	126	9.9 LPM	1247 L	See Attached TEM Analysis Report	
A25842.000-0046	6/13/2019 - Clearance-TEM Classroom, middle of room, by HEPA, NAM	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	
A25842.000-0047	6/13/2019 - Clearance-TEM Classroom, south side by exterior wall/windows	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	
A25842.000-0048	6/13/2019 - Clearance-TEM Classroom, north side, by decon	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	

AIR SAMPLE ASBESTOS ANALYSIS

Client: Dufur School District #29
802 NE 5th Street
Dufur, OR 97021-3034
Project: Dufur School

Report Date: 10/04/2019
Date Received: 06/13/2019
Client Project ID: N/A
PBS Project No.: 25842.000 0003
Page No.: 6 of 6

PBS LAB ID/ CLIENT ID	DATE, LOCATION WORKER NAME, ACTIVITY, PPE, ETC.	MINUTES SAMPLED	AVE. FLOW RATE (LPM)	AIR VOLUME (L)	FIBERS/ FIELDS	FIBERS PER cc (f/cc)
A25842.000-0049	6/13/2019 - Clearance-TEM Classroom, east side near middle, by wall	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	
A25842.000-0050	6/13/2019 - Clearance-TEM Classroom, northwest corner, where area will be demoed	124	9.9 LPM	1228 L	See Attached TEM Analysis Report	

REVIEWED BY

Approved Signatory Date
James Mastanduno

Name

L: Liters of air
LPM: Liters per minute
A: Interlaboratory 95% Upper Confidence Limit
B: Intralaboratory 95% Upper Confidence Limit
C: Limit of detection (LOD)
<LOD: Below the limit of detection
FILTER AREA (Square millimeters): 385



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

Analysis Report Cover Final Report

Phone: (503) 224-5055
http://www.labcorpdx.net

Asbestos and Environmental Analysis

Job Number: 193128 PDX
Client: PBS Engineering and Environmental
Address: 4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 193128R01
Report Date: 6/11/2019

Project Name:
Project Num: 25842.000 Phase 0003
PO Number:
Sub Project:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

FAILS AHERA CLEARANCE CRITERIA - THE TOTAL FILTER DENSITY FOR THIS SET OF SAMPLES IS: 420.3 S/MM2

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
193128 - S1	A25842.000-0009 -	AHERA		6/10/2019
193128 - S2	A25842.000-0010 -	AHERA		6/10/2019
193128 - S3	A25842.000-0011 -	AHERA		6/10/2019
193128 - S4	A25842.000-0012 -	AHERA		6/10/2019
193128 - S5	A25842.000-0013 -	AHERA	Not Analyzed	6/10/2019

AHERA - Method 40-CFR Part 763 App. A, Subpart E Preparation and analysis of the above samples was conducted in accordance with the AHERA method for the identification of asbestos. Briefly, the samples were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethylformamide / Acetone baths until cleared of filter debris.

Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at approximate screen magnification of between 15,000x-20,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification. Grid preparations are evaluated by the analyst before commencing analysis. Proper preparations have >75% replicate coverage, have a 10% etch rate, have acceptable particulate loading and show no evidence of preparation remnants (chemical or material).

Passing criteria for this method is based on the Filter Density (str/mm2). The Total Filter Density is divided by the number of inside work area samples; if the average Filter Density is >70 str/mm2 the sample set fails initial AHERA clearance criteria.

Disclaimer The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in both structures/cm3 and structures/mm2 are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor Portland, Inc. the opportunity to provide you with the analytical services.

Reviewed by:

Danielle de Montigny
X Digital Signature for Lab Use Only

Danielle de Montigny
TEM Technical Manager

AHERA Rapid Summary

Job Number: 193128 PDX

Report Number: 193128R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Lab/Cor Sample No.	Client Sample No.	Description	Structure Type	Filter Density (s/mm2)	Concentration* (struact/cc)	95% Confidence Interval (struact/cc)	Struct Count ¹ Prim/Total	Analytical Sens. (struact/cc) :
S1	A25842.000-0009		AHERA TOTAL >=0.5, 5:1	54.9	0.017	0.005 - 0.044 - Poisson	4	0.00425
S2	A25842.000-0010		AHERA TOTAL >=0.5, 5:1	164.8	0.051	0.026 - 0.088 - Poisson	12	0.00422
S3	A25842.000-0011		AHERA TOTAL >=0.5, 5:1	27.5	0.008	0.001 - 0.03 - Poisson	2	0.00422
S4	A25842.000-0012		AHERA TOTAL >=0.5, 5:1	173.1	0.054	0.024 - 0.102 - Poisson	9	0.00595
B1	Blank		AHERA TOTAL >=0.5, 5:1	0	Not Applicable	Not Applicable	0	NA

Reviewed by:

Danielle de Montigny
 Danielle de Montigny
 TEM Technical Manager

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count]¹ [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.



Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193128 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193128R01
Date Received: 6/10/2019

Lab/Cor Sample No.: S1

Volume (L): 1244

Client Sample No.: A25842.000-0009

Lab Filter Area (mm2): 385

Description:

Grid Openings Analyzed: 7

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/10/2019	Philips CM12	15000
Dd	6/11/2019	Philips CM12	15000

Average Grid Opening Area: 0.0104

Area Analyzed (mm2): 0.0728

Analytical Sens. (struc/cc): 0.00425

Detection Limit. (struc/cc): 0.01271

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	54.9	0.017	0.005 - 0.044 - Poisson	4
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	54.9	0.017	0.005 - 0.044 - Poisson	4

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S2

Volume (L): 1254

Client Sample No.: A25842.000-0010

Lab Filter Area (mm2): 385

Description:

Grid Openings Analyzed: 7

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/10/2019	Philips CM12	15000
Dd	6/11/2019	Philips CM12	15000

Average Grid Opening Area: 0.0104

Area Analyzed (mm2): 0.0728

Analytical Sens. (struc/cc): 0.00422

Detection Limit. (struc/cc): 0.01261

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	123.6	0.038	0.017 - 0.072 - Poisson	9
AHERA >=5.0µm, 5:1	41.2	0.013	0.003 - 0.037 - Poisson	3
AHERA TOTAL >=0.5, 5:1	164.8	0.051	0.026 - 0.088 - Poisson	12

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193128 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193128R01
Date Received: 6/10/2019

Lab/Cor Sample No.: S3

Client Sample No.: A25842.000-0011

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/11/2019	Philips CM12	15000

Volume (L) : 1254
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00422
Detection Limit. (struc/cc) : 0.01261

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	13.7	0.004	0 - 0.023 - Poisson	1
AHERA >=5.0µm, 5:1	13.7	0.004	0 - 0.023 - Poisson	1
AHERA TOTAL >=0.5, 5:1	27.5	0.008	0.001 - 0.03 - Poisson	2

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S4

Client Sample No.: A25842.000-0012

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/11/2019	Philips CM12	15000
Dd	6/11/2019	Philips 410	18000

Volume (L) : 1244
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 5
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.052
Analytical Sens. (struc/cc) : 0.00595
Detection Limit. (struc/cc) : 0.0178

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	115.4	0.036	0.013 - 0.078 - Poisson	6
AHERA >=5.0µm, 5:1	57.7	0.018	0.004 - 0.052 - Poisson	3
AHERA TOTAL >=0.5, 5:1	173.1	0.054	0.024 - 0.102 - Poisson	9

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193128 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193128R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S1

Client Sample No: A25842.000-0009

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C41	ADQ	1		Fiber	3.9	0.2	19.5	Amosite			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Spectra				Pc34350SP		Dd 6/10/2019	
						Diffraction				Pc34350DF		Dd 6/10/2019	0.53nm ROW SPACING
						Brightfield				Pc34350BF			
G1	2	C42				NSD							
G1	3	E41				NSD							
G1	4	E42	CDQ	2		Fiber	1.4	0.1	14	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Spectra				Pc34352SP		Dd 6/10/2019	
						Diffraction				Pc34352DF		Dd 6/10/2019	0.53nm ROW SPACING
						Brightfield				Pc34352BF			
G1	4	E42	CD	3		Fiber	1	0.1	10	Chrysotile		see Pc34352BF	AHERA, AHERA_0.5-5.0
G1	4	E42	CD	4		Matrix	4.5	2	2.2	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Diffraction				Pc34353DF			0.53nm ROW SPACING
						Brightfield				Pc34353BF			
G2	5	F53				NSD							
G2	6	F54				NSD							
G2	7	G53				NSD							



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193128 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193128R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S2

Client Sample No: A25842.000-0010

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	1	E43	CD	1		Matrix	6	3.3	1.8	Chrysotile				AHERA, AHERA_5.0
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34354DF				Dd 6/10/2019		0.53nm ROW SPACING
						Brightfield		Pc34354BF						
G1	2	E44				NSD								
G1	3	F43				NSD								
G1	4	F44	CD	2		Matrix	1.2	0.25	4.8	Chrysotile				AHERA, AHERA_0.5-5.0
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34355DF				Dd 6/10/2019		0.53nm ROW SPACING
						Brightfield		Pc34355BF						
G2	5	F41	AD	3		Matrix	4.5	3	1.5	Amosite				AHERA, AHERA_0.5-5.0
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34356DF				Dd 6/10/2019		0.53nm ROW SPACING
						Brightfield		Pc34356BF						
G2	5	F41	CD	4		Matrix	3.8	3.3	1.2	Chrysotile				AHERA, AHERA_0.5-5.0
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34357DF				Dd 6/10/2019		0.53nm ROW SPACING
						Brightfield		Pc34357BF						
G2	5	F41	CD	5		Matrix	3.4	2.1	1.6	Chrysotile				AHERA, AHERA_0.5-5.0
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34358DF				Dd 6/10/2019		0.53nm ROW SPACING
						Brightfield		Pc34358BF						
G2	5	F41	AD	6		Matrix	1	0.4	2.5	Amosite		see		AHERA, AHERA_0.5-5.0
												Pc34358BF		
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34359DF				Dd 6/10/2019		0.53nm ROW SPACING
G2	6	F42				NSD								
G2	7	G41	AD	7		Fiber	5.8	0.2	29	Amosite				AHERA, AHERA_5.0
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34360DF				Dd 6/10/2019		0.53nm ROW SPACING
						Brightfield		Pc34360BF						
G2	7	G41	CD	8		Fiber	2.9	0.4	7.2	Chrysotile				AHERA, AHERA_0.5-5.0
						ItemType		ItemNum				Confirmed		Comment
						Diffraction		Pc34361DF				Dd 6/10/2019		0.53nm ROW SPACING
						Brightfield		Pc34361BF						



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193128 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193128R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S2

Client Sample No: A25842.000-0010

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G2	7	G41	CD	9		Matrix	1.8	1.6	1.1	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType					Confirmed	Comment	
						Diffraction				Pc34362DF		0.53nm ROW SPACING	
						Brightfield				Pc34362BF			
G2	7	G41	CD	10		Matrix	3.3	2.8	1.2	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType					Confirmed	Comment	
						Brightfield				Pc34363BF			
G2	7	G41	CD	11		Matrix	11.8	4.8	2.5	Chrysotile			AHERA, AHERA_5.0
						ItemType					Confirmed	Comment	
						Diffraction				Pc34364DF		0.53nm ROW SPACING	
						Brightfield				Pc34364BF			
G2	7	G41	CD	12		Fiber	1.7	0.1	17	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType					Confirmed	Comment	
						Diffraction				Pc34365DF		0.53nm ROW SPACING	
						Brightfield				Pc34365BF			

Lab/Cor Sample No: S3

Client Sample No: A25842.000-0011

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	G41	CD	1		Matrix	5.6	2.8	2	Chrysotile			AHERA, AHERA_5.0
						ItemType					Confirmed	Comment	
						Brightfield				Pc34366BF			
G1	2	G42				NSD							
G1	3	H41				NSD							
G1	4	H42				NSD							
G2	5	F24				NSD							
G2	6	G23				NSD							
G2	7	G24	CD	2		Fiber	3.2	0.1	32	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType					Confirmed	Comment	
						Diffraction				Pc34367DF		0.53nm ROW SPACING	
						Brightfield				Pc34367BF			



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193128 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193128R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S4

Client Sample No: A25842.000-0012

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	1	E42	CD	1		Fiber	5.1	0.2	25.5	Chrysotile				AHERA, AHERA_5.0
						ItemType						Confirmed		Comment
						Brightfield								Pc34368BF
G1	1	E42	CD	2		Fiber	1.4	0.1	14	Chrysotile		see		AHERA, AHERA_0.5-5.0
												Pc34368BF		
G1	1	E42	CD	3		Fiber	1	0.1	10	Chrysotile		see		AHERA, AHERA_0.5-5.0
												Pc34368BF		
G1	1	E42	AD	4		Fiber	2.3	0.2	11.5	Amosite				AHERA, AHERA_0.5-5.0
						ItemType						Confirmed		Comment
						Diffraction						Dd 6/11/2019		0.53nm ROW SPACING
						Brightfield								Pc34369BF
G1	2	F41				NSD								
G1	3	F42	AD	5		Fiber	5.6	0.4	14	Amosite				AHERA, AHERA_5.0
						ItemType						Confirmed		Comment
						Brightfield								P34370BF
G1	4	G41				NSD								
G2	5	G32	CD	6		Matrix	1.3	0.1	13	Chrysotile				AHERA, AHERA_0.5-5.0
						ItemType						Confirmed		Comment
						Brightfield								P34372BF
G2	5	G32	AD	7		Fiber	6.1	0.5	12.2	Amosite				AHERA, AHERA_5.0
						ItemType						Confirmed		Comment
						Brightfield								P34373BF
G2	5	G32	AD	8		Fiber	1.3	0.2	6.5	Amosite		see P34373BF		AHERA, AHERA_0.5-5.0
G2	5	G32	CD	9		Fiber	1.7	0.1	17	Chrysotile				AHERA, AHERA_0.5-5.0
						ItemType						Confirmed		Comment
						Diffraction						Dd 6/11/2019		0.53nm ROW SPACING



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

**Analysis Report Cover
Final Report**

Asbestos and Environmental Analysis

Phone: (503) 224-5055
http://www.labcorpdx.net

Job Number: 193129 PDX
Client: PBS Engineering and Environmental
Address: 4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 193129R01
Report Date: 6/11/2019

Project Name:
Project Num: 25842.000 Phase 0003
PO Number:
Sub Project:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

PASSES AHERA CLEARANCE CRITERIA - THE TOTAL FILTER DENSITY FOR THIS SET OF SAMPLES IS: 137.4 S/MM2

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
193129 - S1	A25842.000-0015 -	AHERA		6/10/2019
193129 - S2	A25842.000-0016 -	AHERA		6/10/2019
193129 - S3	A25842.000-0017 -	AHERA		6/10/2019
193129 - S4	A25842.000-0018 -	AHERA		6/10/2019
193129 - S5	A25842.000-0019 -	AHERA		6/10/2019

AHERA - Method 40-CFR Part 763 App. A, Subpart E Preparation and analysis of the above samples was conducted in accordance with the AHERA method for the identification of asbestos. Briefly, the samples were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethylformamide / Acetone baths until cleared of filter debris.

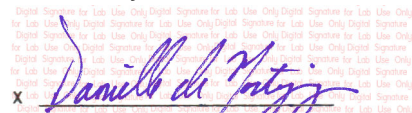
Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at approximate screen magnification of between 15,000x-20,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification. Grid preparations are evaluated by the analyst before commencing analysis. Proper preparations have >75% replicate coverage, have a 10% etch rate, have acceptable particulate loading and show no evidence of preparation remnants (chemical or material).

Passing criteria for this method is based on the Filter Density (str/mm2). The Total Filter Density is divided by the number of inside work area samples; if the average Filter Density is >70 str/mm2 the sample set fails initial AHERA clearance criteria.

Disclaimer The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in both structures/cm3 and structures/mm2 are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor Portland, Inc. the opportunity to provide you with the analytical services.

Reviewed by:


x

Danielle de Montigny
TEM Technical Manager

AHERA Rapid Summary

Job Number: 193129 PDX

Report Number: 193129R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Lab/Cor Sample No.	Client Sample No.	Description	Structure Type	Filter Density (s/mm2)	Concentration* (struct/cc)	95% Confidence Interval (struct/cc)	Struct Count ¹ Prim/Total	Analytical Sens. (struct/cc) :
S1	A25842.000-0015		AHERA TOTAL >=0.5, 5:1	13.7	0.004	0 - 0.023 - Poisson	1	0.00411
S2	A25842.000-0016		AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.015 - Poisson	0	0.00411
S3	A25842.000-0017		AHERA TOTAL >=0.5, 5:1	68.7	0.02	0.007 - 0.048 - Poisson	5	0.00408
S4	A25842.000-0018		AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.015 - Poisson	0	0.00408
S5	A25842.000-0019		AHERA TOTAL >=0.5, 5:1	54.9	0.016	0.004 - 0.042 - Poisson	4	0.00411

Reviewed by:

Danielle de Montigny
 Danielle de Montigny
 TEM Technical Manager

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struct count]¹ [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193129 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193129R01
Date Received: 6/10/2019

Lab/Cor Sample No.: S1

Client Sample No.: A25842.000-0015

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/11/2019	Philips CM12	15000

Volume (L) : 1287
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00411
Detection Limit. (struc/cc) : 0.01229

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.015 - Poisson	0
AHERA >=5.0µm, 5:1	13.7	0.004	0 - 0.023 - Poisson	1
AHERA TOTAL >=0.5, 5:1	13.7	0.004	0 - 0.023 - Poisson	1

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S2

Client Sample No.: A25842.000-0016

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/11/2019	Philips CM12	15000

Volume (L) : 1287
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00411
Detection Limit. (struc/cc) : 0.01229

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.015 - Poisson	0
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.015 - Poisson	0
AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.015 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193129 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193129R01
Date Received: 6/10/2019

Lab/Cor Sample No.: S3

Client Sample No.: A25842.000-0017

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/11/2019	Philips CM12	15000

Volume (L) : 1297
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00408
Detection Limit. (struc/cc) : 0.01219

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	54.9	0.016	0.004 - 0.042 - Poisson	4
AHERA >=5.0µm, 5:1	13.7	0.004	0 - 0.023 - Poisson	1
AHERA TOTAL >=0.5, 5:1	68.7	0.02	0.007 - 0.048 - Poisson	5

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S4

Client Sample No.: A25842.000-0018

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/11/2019	Philips CM12	15000

Volume (L) : 1297
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00408
Detection Limit. (struc/cc) : 0.01219

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.015 - Poisson	0
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.015 - Poisson	0
AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.015 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193129 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193129R01
Date Received: 6/10/2019

Lab/Cor Sample No.: S5
Client Sample No.: A25842.000-0019
Description:

Volume (L) : 1287
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00411
Detection Limit. (struc/cc) : 0.01229

Analyst(s) **Analysis Date** **Microscope** **Magnification**
Dd 6/11/2019 Philips CM12 15000

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count! Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	54.9	0.016	0.004 - 0.042 - Poisson	4
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.015 - Poisson	0
AHERA TOTAL >=0.5, 5:1	54.9	0.016	0.004 - 0.042 - Poisson	4

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Reviewed by:

Digital Signature for Lab Use Only

Danielle de Montigny
TEM Technical Manager

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

Final Report

Phone: (503) 224-5055
<http://www.labcorpdx.net>

Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193129 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193129R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S1

Client Sample No: A25842.000-0015

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	F33			NSD							
G1	2	F34	CDQ	1	Matrix	9.4	3.6	2.6	Chrysotile	Mg, Si		AHERA, AHERA_5.0
					ItemType						Confirmed	Comment
					Spectra						Dd 6/11/2019	
					Diffraction						Dd 6/11/2019	0.53nm ROW SPACING
					Brightfield							
G1	3	G33			NSD							
G1	4	G34			NSD							
G2	5	G41			NSD							
G2	6	G42			NSD							
G2	7	H41			NSD							

Lab/Cor Sample No: S2

Client Sample No: A25842.000-0016

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	F24			NSD							
G1	2	G23			NSD							
G1	3	G24			NSD							
G1	4	H23			NSD							
G2	5	E42			NSD							
G2	6	F41			NSD							
G2	7	F42			NSD							

Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193129 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193129R01

Client: PBS Engineering and Environmental

Date Received: 6/10/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S3

Client Sample No: A25842.000-0017

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C31	CDQ	1		Fiber	1.3	0.1	13	Chrysotile	Mg, Si		AHERA, AHERA_0.5-5.0
						ItemType	ItemNum					Confirmed Comment	
						Spectra	Pc34376SP					Dd 6/11/2019	
						Diffraction	Pc34376DF					Dd 6/11/2019	0.53nm ROW SPACING
						Brightfield	Pc34376BF						
G1	1	C31	CD	2		Fiber	1	0.1	10	Chrysotile		see Pc34376BF	AHERA, AHERA_0.5-5.0
G1	1	C31	CD	3		Matrix	4.3	3.5	1.2	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType	ItemNum					Confirmed Comment	
						Diffraction	Pc34377DF					Dd 6/11/2019	0.53nm ROW SPACING
						Brightfield	Pc34377BF						
G1	1	C31	CD	4		Matrix	2.5	1.3	1.9	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType	ItemNum					Confirmed Comment	
						Brightfield	Pc34378BF						
G1	2	C32				NSD							
G1	3	E31				NSD							
G1	4	E32	ADQ	5		Fiber	6.4	0.4	16	Amosite			AHERA, AHERA_5.0
						ItemType	ItemNum					Confirmed Comment	
						Spectra	Pc34379SP					Dd 6/11/2019	
						Diffraction	Pc34379DF					Dd 6/11/2019	0.53nm ROW SPACING
						Brightfield	Pc34379BF						
G2	5	F23				NSD							
G2	6	F24				NSD							
G2	7	G23				NSD							

Lab/Cor Sample No: S4

Client Sample No: A25842.000-0018

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	G41				NSD							
G1	2	G42				NSD							
G1	3	H41				NSD							
G1	4	H42				NSD							
G2	5	F32				NSD							
G2	6	G31				NSD							
G2	7	G32				NSD							

*Asbestos and Environmental Analysis***AHERA Raw Data****Job Number: 193129 PDX Method 40-CFR Part 763 App. A, Subpart E****Report Number: 193129R01****Client: PBS Engineering and Environmental****Date Received: 6/10/2019****Project Name:****Project No.: 25842.000 Phase 0003****Lab/Cor Sample No: S5****Client Sample No: A25842.000-0019****Description:**

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	F41				NSD							
G1	2	F42				NSD							
G1	3	G41				NSD							
G1	4	G42	CD	1		Fiber	1.9	0.1	19	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType	ItemNum				Confirmed	Comment	
						Spectra	Pc34380SP				Dd 6/11/2019		
						Diffraction	Pc34380DF				Dd 6/11/2019	0.53nm ROW SPACING	
						Brightfield	Pc34380BF						
G1	4	G42	CD	2		Fiber	0.9	0.1	9	Chrysotile		see Pc34380BF	AHERA, AHERA_0.5-5.0
G1	4	G42	CD	3		Matrix	2.5	2.2	1.1	Chrysotile		see Pc34380BF	AHERA, AHERA_0.5-5.0
G2	5	G31	CD	4		Matrix	0.7	0.2	3.5	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType	ItemNum				Confirmed	Comment	
						Diffraction	Pc34381DF				Dd 6/11/2019	0.53nm ROW SPACING	
						Brightfield	Pc34381BF						
G2	6	G32				NSD							
G2	7	H31				NSD							

Count Categories

AHERA AHERA TOTAL >=0.5, 5:1 AHERA_0.5-5.0 AHERA >=0.5 to 5.0µm, 5:1 AHERA_5.0 AHERA >=5.0µm, 5:1

Reviewed by:

Danielle de Montigny
TEM Technical Manager

Job Number: 190484 SEA
Client: PBS Engineering + Environmental
Address: 4412 SW Corbett Ave
Portland, OR 97239
Project Name: Dufur School
Project Num: 25842.000 Phase 0003
PO Number:
Sub Project:

Report Number: 190484R01
Report Date: 6/13/2019

PASSES AHERA INITIAL SCREENING TEST - THE TOTAL FILTER DENSITY FOR THIS SET OF SAMPLES IS: 0 S/MM2.

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
190484 - S1	A25842.000-0031 - South Stage; South End of Tank	AHERA		6/12/2019
190484 - S2	A25842.000-0032 - South Stage; West Side of Tank	AHERA		6/12/2019
190484 - S3	A25842.000-0033 - South Stage; North Side by Wall	AHERA		6/12/2019
190484 - S4	A25842.000-0034 - South Stage; Middle of Containment	AHERA		6/12/2019
190484 - S5	A25842.000-0035 - South Stage; North Side between HEPA and Decon.	AHERA		6/12/2019

AHERA - Method 40-CFR Part 763 App. A, Subpart E Preparation and analysis of the above samples was conducted in accordance with the AHERA method for the identification of asbestos. Briefly, the samples were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethylformamide / Acetone baths until cleared of filter debris.

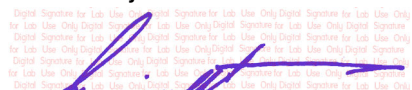
Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at approximate screen magnification of between 15,000x-20,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification. Grid preparations are evaluated by the analyst before commencing analysis. Proper preparations have >75% replicate coverage, have a 10% etch rate, have acceptable particulate loading and show no evidence of preparation remnants (chemical or material).

Passing criteria for this method is based on the Filter Density (str/mm²). The Total Filter Density is divided by the number of inside work area samples; if the average Filter Density is >70 str/mm² the sample set fails initial AHERA clearance criteria.

Disclaimer This test report shall not be reproduced, except in full, without written approval of the laboratory. The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in either structures/cm³ or structures/mm² are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Reviewed by:



Derk Wipprecht
Laboratory Supervisor

AHERA Rapid Summary

Job Number: 190484 **SEA**
Client: PBS Engineering + Environmental
Project Name: Dufur School

Report Number: 190484R01
Date Received: 6/12/2019

Lab/Cor Sample No.	Client Sample No.	Description	Structure Type	Filter Density (s/mm2)	Concentration* (struct/cc)	95% Confidence Interval (struct/cc)	Struct Count ¹ Prim/Total	Analytical Sens. (struct/cc) :
S1	A25842.000-0031	South Stage; South End of Tank	AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00436
S2	A25842.000-0032	South Stage; West Side of Tank	AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00432
S3	A25842.000-0033	South Stage; North Side by Wall	AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00443
S4	A25842.000-0034	South Stage; Middle of Containment	AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00446
S5	A25842.000-0035	South Stage; North Side between HEPA and Decon.	AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00446

Reviewed by:

(Signature)
 X

Derk Wipprecht
Laboratory Supervisor

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struct count]¹ [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

AHERA Raw Data

Job Number: 190484 **SEA** **Method** 40-CFR Part 763 App. A, Subpart E **Report Number:** 190484R01
Client: PBS Engineering + Environmental **Date Received:** 6/12/2019
Project Name: Dufur School
Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S1
Client Sample No: A25842.000-0031
Description: South Stage; South End of Tank

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	H31			NSD							
G1	2	H32			NSD							
G1	3	G31			NSD							
G1	4	G32			NSD							
G1	5	E31			NSD							
G2	6	C51			NSD							
G2	7	C42			NSD							

Lab/Cor Sample No: S2
Client Sample No: A25842.000-0032
Description: South Stage; West Side of Tank

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	B41			NSD							
G1	2	B44	NAM		Fiber	0.75	0.15	5	Non Asbestos Mineral	Mg, Si	No Diffraction	
G1	3	B43			NSD							
G1	4	C43			NSD							
G1	5	C33			NSD							
G2	6	E43			NSD							
G2	7	E44			NSD							

Lab/Cor Sample No: S3
Client Sample No: A25842.000-0033
Description: South Stage; North Side by Wall

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	K42			NSD							
G1	2	K43			NSD							
G1	3	K44			NSD							
G1	4	H52			NSD							
G1	5	K51			NSD							
G2	6	F44			NSD							
G2	7	G43			NSD							

AHERA Raw Data

Job Number: 190484 **SEA** **Method** 40-CFR Part 763 App. A, Subpart E
Client: PBS Engineering + Environmental
Project Name: Dufur School
Project No.: 25842.000 Phase 0003

Report Number: 190484R01
Date Received: 6/12/2019

Lab/Cor Sample No: S4
Client Sample No: A25842.000-0034
Description: South Stage; Middle of Containment

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C31			NSD							
G1	2	C32			NSD							
G1	3	E31			NSD							
G1	4	E32			NSD							
G1	5	F31			NSD							
G2	6	E42			NSD							
G2	7	F43			NSD							

Lab/Cor Sample No: S5
Client Sample No: A25842.000-0035
Description: South Stage; North Side between HEPA and Decon.

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	F41			NSD							
G1	2	F42			NSD							
G1	3	E43			NSD							
G1	4	E44			NSD							
G1	5	F43			NSD							
G2	6	G41			NSD							
G2	7	G42			NSD							

Count Categories												
AHERA	AHERA TOTAL >=0.5, 5:1	AHERA_0.5-5.0	AHERA >=0.5 to 5.0µm, 5:1	AHERA_5.0	AHERA >=5.0µm, 5:1							

Reviewed by:

Derk Wipprecht

Derk Wipprecht
Laboratory Supervisor



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

Analysis Report Cover Final Report

Phone: (503) 224-5055
http://www.labcorpdx.net

Asbestos and Environmental Analysis

Job Number: 193232 PDX
Client: PBS Engineering and Environmental
Address: 4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 193232R01
Report Date: 6/14/2019

Project Name:
Project Num: 25842.000 Phase 0003
PO Number:
Sub Project:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

PASSES AHERA CLEARANCE CRITERIA - THE TOTAL FILTER DENSITY FOR THIS SET OF SAMPLES IS: 0 S/MM2

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
193232 - S1	A25842.000-0041 -	AHERA		6/13/2019
193232 - S2	A25842.000-0042 -	AHERA		6/13/2019
193232 - S3	A25842.000-0043 -	AHERA		6/13/2019
193232 - S4	A25842.000-0044 -	AHERA		6/13/2019
193232 - S5	A25842.000-0045 -	AHERA		6/13/2019

AHERA - Method 40-CFR Part 763 App. A, Subpart E Preparation and analysis of the above samples was conducted in accordance with the AHERA method for the identification of asbestos. Briefly, the samples were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethylformamide / Acetone baths until cleared of filter debris.

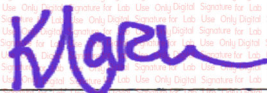
Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at approximate screen magnification of between 15,000x-20,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification. Grid preparations are evaluated by the analyst before commencing analysis. Proper preparations have >75% replicate coverage, have a 10% etch rate, have acceptable particulate loading and show no evidence of preparation remnants (chemical or material).

Passing criteria for this method is based on the Filter Density (str/mm2). The Total Filter Density is divided by the number of inside work area samples; if the average Filter Density is >70 str/mm2 the sample set fails initial AHERA clearance criteria.

Disclaimer The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in both structures/cm3 and structures/mm2 are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor Portland, Inc. the opportunity to provide you with the analytical services.

Reviewed by:


X

Kate March
Analyst

AHERA Rapid Summary

Job Number: 193232 PDX

Report Number: 193232R01

Client: PBS Engineering and Environmental

Date Received: 6/13/2019

Project Name:

Lab/Cor Sample No.	Client Sample No.	Description	Structure Type	Filter Density (s/mm2)	Concentration* (struct/cc)	95% Confidence Interval (struct/cc)	Struct Count ¹ Prim/Total	Analytical Sens. (struct/cc) :
S1	A25842.000-0041		AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00431
S2	A25842.000-0042		AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00431
S3	A25842.000-0043		AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00427
S4	A25842.000-0044		AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00427
S5	A25842.000-0045		AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0	0.00424

Reviewed by:


 Kate March
 Analyst

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struct count]¹ [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.



Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193232 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193232R01
Date Received: 6/13/2019

Lab/Cor Sample No.: S1

Client Sample No.: A25842.000-0041

Description:

Analyst(s) **Analysis Date** **Microscope** **Magnification**
KM 6/14/2019 JEOL 1200 EX 20000

Volume (L) : 1228
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00431
Detection Limit. (struc/cc) : 0.01288

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S2

Client Sample No.: A25842.000-0042

Description:

Analyst(s) **Analysis Date** **Microscope** **Magnification**
KM 6/14/2019 JEOL 1200 EX 20000

Volume (L) : 1228
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00431
Detection Limit. (struc/cc) : 0.01288

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193232 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193232R01
Date Received: 6/13/2019

Lab/Cor Sample No.: S3

Client Sample No.: A25842.000-0043

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
KM	6/14/2019	JEOL 1200 EX	20000

Volume (L) : 1238
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00427
Detection Limit. (struc/cc) : 0.01277

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S4

Client Sample No.: A25842.000-0044

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
KM	6/14/2019	JEOL 1200 EX	20000

Volume (L) : 1238
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00427
Detection Limit. (struc/cc) : 0.01277

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193232 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193232R01
Date Received: 6/13/2019

Lab/Cor Sample No.: S5

Volume (L): 1247

Client Sample No.: A25842.000-0045

Lab Filter Area (mm2): 385

Description:

Grid Openings Analyzed: 7

Analyst(s)	Analysis Date	Microscope	Magnification
KM	6/14/2019	JEOL 1200 EX	20000

Average Grid Opening Area: 0.0104

Area Analyzed (mm2): 0.0728

Analytical Sens. (struc/cc): 0.00424

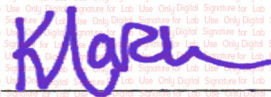
Detection Limit. (struc/cc): 0.01268

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	0	< 0.004	0 - 0.016 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Reviewed by:

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Kate March
Analyst

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193232 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193232R01

Client: PBS Engineering and Environmental

Date Received: 6/13/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S1

Client Sample No: A25842.000-0041

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C34			NSD							
G1	2	E33			NSD							
G1	3	E42			NSD							
G1	4	F41			NSD							
G2	5	F31			NSD							
G2	6	F34			NSD							
G2	7	G33			NSD							

Lab/Cor Sample No: S2

Client Sample No: A25842.000-0042

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C42			NSD							
G1	2	E41			NSD							
G1	3	E43			NSD							
G1	4	F51			NSD							
G2	5	G32			NSD							
G2	6	H31			NSD							
G2	7	H24			NSD							

Lab/Cor Sample No: S3

Client Sample No: A25842.000-0043

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	E44			NSD							
G1	2	F43			NSD							
G1	3	F52			NSD							
G1	4	G51			NSD							
G2	5	E51			NSD							
G2	6	E52			NSD							
G2	7	F43			NSD							



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

Final Report

Phone: (503) 224-5055
http://www.labcorpdx.net

Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193232 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193232R01

Client: PBS Engineering and Environmental

Date Received: 6/13/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S4

Client Sample No: A25842.000-0044

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C44			NSD							
G1	2	E43			NSD							
G1	3	E52			NSD							
G1	4	F52			NSD							
G2	5	E42			NSD							
G2	6	F41			NSD							
G2	7	F42			NSD							

Lab/Cor Sample No: S5

Client Sample No: A25842.000-0045

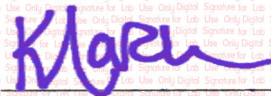
Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	B34			NSD							
G1	2	C33			NSD							
G1	3	C42			NSD							
G1	4	E41			NSD							
G2	5	C31			NSD							
G2	6	C34			NSD							
G2	7	F41			NSD							

Count Categories

AHERA	AHERA TOTAL >=0.5, 5:1	AHERA_0.5-5.0	AHERA >=0.5 to 5.0µm, 5:1	AHERA_5.0	AHERA >=5.0µm, 5:1
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Reviewed by:

(Faint signature text)


Kate March
Analyst

AHERA Rapid Summary

Job Number: 193233 PDX

Client: PBS Engineering and Environmental

Project Name:

Report Number: 193233R01

Date Received: 6/13/2019

Lab/Cor Sample No.	Client Sample No.	Description	Structure Type	Filter Density (s/mm2)	Concentration* (struct/cc)	95% Confidence Interval (struct/cc)	Struct Count ¹ Prim/Total	Analytical Sens. (struct/cc) :
S1	A25842.000-0046		AHERA TOTAL >=0.5, 5:1	54.9	0.017	0.005 - 0.044 - Poisson	4	0.00431
S2	A25842.000-0047		AHERA TOTAL >=0.5, 5:1	27.5	0.009	0.001 - 0.031 - Poisson	2	0.00431
S3	A25842.000-0048		AHERA TOTAL >=0.5, 5:1	82.4	0.026	0.009 - 0.056 - Poisson	6	0.00431
S4	A25842.000-0049		AHERA TOTAL >=0.5, 5:1	68.7	0.022	0.007 - 0.05 - Poisson	5	0.00431
S5	A25842.000-0050		AHERA TOTAL >=0.5, 5:1	27.5	0.009	0.001 - 0.031 - Poisson	2	0.00431

Reviewed by:

Danielle de Montigny
 Danielle de Montigny
 TEM Technical Manager

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struct count]¹ [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193233 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193233R01
Date Received: 6/13/2019

Lab/Cor Sample No.: S1

Client Sample No.: A25842.000-0046

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/14/2019	Philips CM12	15000

Volume (L) : 1228
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00431
Detection Limit. (struc/cc) : 0.01288

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	41.2	0.013	0.003 - 0.038 - Poisson	3
AHERA >=5.0µm, 5:1	13.7	0.004	0 - 0.024 - Poisson	1
AHERA TOTAL >=0.5, 5:1	54.9	0.017	0.005 - 0.044 - Poisson	4

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S2

Client Sample No.: A25842.000-0047

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/14/2019	Philips CM12	15000

Volume (L) : 1228
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00431
Detection Limit. (struc/cc) : 0.01288

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	13.7	0.004	0 - 0.024 - Poisson	1
AHERA >=5.0µm, 5:1	13.7	0.004	0 - 0.024 - Poisson	1
AHERA TOTAL >=0.5, 5:1	27.5	0.009	0.001 - 0.031 - Poisson	2

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193233 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193233R01
Date Received: 6/13/2019

Lab/Cor Sample No.: S3

Client Sample No.: A25842.000-0048

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/14/2019	Philips CM12	15000

Volume (L) : 1228
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00431
Detection Limit. (struc/cc) : 0.01288

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	82.4	0.026	0.009 - 0.056 - Poisson	6
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	82.4	0.026	0.009 - 0.056 - Poisson	6

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Lab/Cor Sample No.: S4

Client Sample No.: A25842.000-0049

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/14/2019	Philips CM12	15000

Volume (L) : 1228
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 7
Average Grid Opening Area : 0.0104
Area Analyzed (mm2) : 0.0728
Analytical Sens. (struc/cc) : 0.00431
Detection Limit. (struc/cc) : 0.01288

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	68.7	0.022	0.007 - 0.05 - Poisson	5
AHERA >=5.0µm, 5:1	0	< 0.004	0 - 0.016 - Poisson	0
AHERA TOTAL >=0.5, 5:1	68.7	0.022	0.007 - 0.05 - Poisson	5

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



Asbestos and Environmental Analysis

AHERA Summary Data

Job Number: 193233 **PDX**
Client: PBS Engineering and Environmental
Project Name:

Report Number: 193233R01
Date Received: 6/13/2019

Lab/Cor Sample No.: S5

Volume (L): 1228

Client Sample No.: A25842.000-0050

Lab Filter Area (mm2): 385

Description:

Grid Openings Analyzed: 7

Analyst(s)	Analysis Date	Microscope	Magnification
Dd	6/14/2019	Philips CM12	15000

Average Grid Opening Area: 0.0104

Area Analyzed (mm2): 0.0728

Analytical Sens. (struc/cc): 0.00431


Detection Limit. (struc/cc): 0.01288

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
AHERA >=0.5 to 5.0µm, 5:1	13.7	0.004	0 - 0.024 - Poisson	1
AHERA >=5.0µm, 5:1	13.7	0.004	0 - 0.024 - Poisson	1
AHERA TOTAL >=0.5, 5:1	27.5	0.009	0.001 - 0.031 - Poisson	2

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Reviewed by:

Digitally signed by Danielle de Montigny, DN: cn=Danielle de Montigny, o=Lab/Cor Portland, Inc., ou=Lab/Cor Portland, Inc., email=Danielle.deMontigny@labcorpdx.net



Danielle de Montigny
TEM Technical Manager

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193233 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193233R01

Client: PBS Engineering and Environmental

Date Received: 6/13/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S1

Client Sample No: A25842.000-0046

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C34				NSD							
G1	2	E33	CD	1		Matrix	8.2	9.2	0.9	Chrysotile	Mg, Si		AHERA, AHERA_5.0
						ItemType						Confirmed	Comment
						Spectra						Dd 6/14/2019	
						Diffraction						Dd 6/14/2019	0.53nm ROW SPACING
						Brightfield							
G1	3	E34				NSD							
G1	4	F33				NSD							
G2	5	C51				NSD							
G2	6	C52				NSD							
G2	7	E51	CD	2		Matrix	4.6	1.9	2.4	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Diffraction						Dd 6/14/2019	0.53nm ROW SPACING
						Brightfield							
G2	7	E51	CD	3		Fiber	2.2	0.1	22	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Brightfield							
G2	7	E51	CD	4		Matrix	2.4	0.9	2.7	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Diffraction							0.53nm ROW SPACING
						Brightfield							



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193233 **PDX** **Method 40-CFR Part 763 App. A, Subpart E**

Report Number: 193233R01

Client: PBS Engineering and Environmental

Date Received: 6/13/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S2

Client Sample No: A25842.000-0047

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	1	E43				NSD								
G1	2	E44				NSD								
G1	3	F43				NSD								
G1	4	F44				NSD								
G2	5	E31				NSD								
G2	6	E32	ADQ	1		Matrix	11.8	6.3	1.9	Amosite	Fe, Mg, Si			AHERA, AHERA_5.0
						ItemType						Confirmed		Comment
						Spectra						Dd	6/14/2019	
						Diffraction						Dd	6/14/2019	0.53nm ROW SPACING
						Brightfield								
G2	6	E32	CDQ	2		Matrix	3.8	1.8	2.1	Chrysotile	Mg, Si			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed		Comment
						Spectra						Dd	6/14/2019	
						Diffraction						Dd	6/14/2019	0.53nm ROW SPACING
						Brightfield								
G2	7	F31				NSD								



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193233 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193233R01

Client: PBS Engineering and Environmental

Date Received: 6/13/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S3

Client Sample No: A25842.000-0048

Description:

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C43	CDQ	1		Matrix	3.9	4	1	Chrysotile	Mg, Si		AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Spectra				Pc34393SP		Dd 6/14/2019	
						Diffraction				Pc34393DF		Dd 6/14/2019	0.53nm ROW SPACING
						Brightfield				Pc34393BF			
G1	1	C43	CD	2		Matrix	2.5	1	2.5	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Brightfield				Pc34394BF			
G1	2	C44	CD	3		Fiber	2.6	0.1	26	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Diffraction				Pc34395DF		Dd 6/14/2019	0.53nm ROW SPACING
						Brightfield				Pc34395BF			
G1	3	E43	CD	4		Matrix	3.5	1.1	3.2	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Brightfield				Pc34396BF			
G1	3	E43	CD	5		Matrix	2.6	0.7	3.7	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Brightfield				Pc34397BF			
G1	4	E44				NSD							
G2	5	E31				NSD							
G2	6	E32	CD	6		Fiber	1.1	0.1	11	Chrysotile			AHERA, AHERA_0.5-5.0
						ItemType						Confirmed	Comment
						Brightfield				Pc34398BF			
G2	7	F31				NSD							



Asbestos and Environmental Analysis

AHERA Raw Data

Job Number: 193233 PDX Method 40-CFR Part 763 App. A, Subpart E

Report Number: 193233R01

Client: PBS Engineering and Environmental

Date Received: 6/13/2019

Project Name:

Project No.: 25842.000 Phase 0003

Lab/Cor Sample No: S4

Client Sample No: A25842.000-0049

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	F43	CDQ	1	Matrix	2.6	1.7	1.5	Chrysotile			AHERA, AHERA_0.5-5.0
					ItemType						Confirmed	Comment
					Spectra				Pc34399SP		Dd 6/14/2019	
					Diffraction				Pc34399DF		Dd 6/14/2019	0.53nm ROW SPACING
					Brightfield				Pc34399BF			
G1	2	F44			NSD							
G1	3	G43	CD	2	Fiber	1	0.2	5	Chrysotile			AHERA, AHERA_0.5-5.0
					ItemType						Confirmed	Comment
					Diffraction				Pc34400DF		Dd 6/14/2019	
					Brightfield				Pc34400BF			
G1	3	G43	CD	3	Fiber	3.4	0.1	34	Chrysotile			AHERA, AHERA_0.5-5.0
					ItemType						Confirmed	Comment
					Brightfield				Pc34401BF			
G1	4	G44	CD	4	Matrix	4	2.2	1.8	Chrysotile			AHERA, AHERA_0.5-5.0
G1	4	G44	CD	5	Fiber	1.5	0.1	15	Chrysotile			AHERA, AHERA_0.5-5.0
G2	5	E53			NSD							
G2	6	E54			NSD							
G2	7	F53			NSD							

Lab/Cor Sample No: S5

Client Sample No: A25842.000-0050

Description:

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	E31	CD	1	Fiber	0.5	0.1	5	Chrysotile			AHERA, AHERA_0.5-5.0
					ItemType						Confirmed	Comment
					Diffraction				Pc34402DF		Dd 6/14/2019	0.53nm ROW SPACING
					Brightfield				Pc34402BF			
G1	2	E32			NSD							
G1	3	F31			NSD							
G1	4	F32	CD	2	Matrix	5.7	1.1	5.2	Chrysotile			AHERA, AHERA_5.0
					ItemType						Confirmed	Comment
					Brightfield				Pc34403BF			
G2	5	C41			NSD							
G2	6	C42			NSD							
G2	7	E41			NSD							

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.000-0039	Leveling Compound	Southeast classroom; middle of room under tile/mastic, dark brown, hard, crumbly		Lab Cor
		Layer: Layer 1	Description: fine compact powder, brown	Analysis: No Asbestos Detected

193178



TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: June 12, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939; Fax: 866.727.0140

Alex Johnson
Name

AJH 6/12/19 0830
Authorized Signature Date Time

RECEIVER

Date Received: 6/12/19

Company: Lab Cor
Address: 4321 SW Corbett Ave Ste A
Portland, OR 97239
503-224-5055

MARK DONAHUE
Name
[Signature] ckr/ck 8:30
Authorized Signature Date Time

Sender's ID No. 25842.000-0039
Brief Description _____
Receiver's ID No. _____

Please analyze the enclosed 1 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.
Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.
TURNAROUND DESIRED: 24 Hour

SPECIAL INSTRUCTIONS:

JRM/BLU

Appendix C

Contractor Submittals

Department of Environmental Quality (DEQ) Notifications

Daily Work Logs

Personal Air Monitoring Data

Asbestos Waste Shipment Report Forms

19-07093



ASN 1 DEQ Project Notification Form For Abatement of Friable Asbestos-Containing Material

For DEQ use only	
Date Received	_____
Amount Received	_____
Check Number	_____
Project Number	_____

Attention: This notification must be complete, legible and received by DEQ at least 10 days before the start date of any friable asbestos abatement project and accompanied by the appropriate notification fee. Form instructions are online at: www.oregon.gov/deq

Project Category and Notification fee

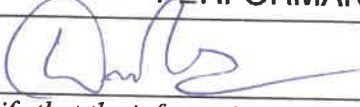
Emergency Abatement Project (Emergency notifications require a 50% fee increase.)
Emergency Approved by (DEQ staff name) _____ **Date** _____
Reason for Emergency _____
 (e.g., explanation: fire or water damage, dangerous structure, etc.)

Check one:

- A. \$100 Projects with less than 40 linear feet or 80 square feet of asbestos-containing material, or for each residential abatement project.
- B. \$200 Projects from 40 to 259 linear feet or 80 to 159 square feet of asbestos-containing material.
- C. \$400 Projects from 260 to 1,299 linear feet or 160 to 799 square feet of asbestos-containing material.
- D. \$525 Projects from 1,300 to 2,599 linear feet or 800 to 1,599 square feet of asbestos-containing material.
- E. \$900 Projects from 2,600 to 4,999 linear feet or 1,600 to 3,499 square feet of asbestos-containing material.
- F. \$1,050 Projects from 5,000 to 9,999 linear feet or 3,500 to 5,999 square feet of asbestos-containing material.
- G. \$1,700 Projects from 10,000 to 25,999 linear feet or 6,000 to 15,999 square feet of asbestos-containing material.
- H. \$2,800 Projects from 26,000 to 259,999 linear feet or 16,000 to 159,999 square feet of asbestos-containing material.
- I. \$3,500 Projects 260,000 linear feet or more or 160,000 square feet or more of asbestos-containing material.

Complete the following:

1. If this is a revision to a previous notification, provide the revision number: NO (ORIGINAL)			
List lines that have been revised on this form:			
2. Project start date: 6/5/19		3. Completion date: 6/14/19	
4. Days of week abatement to be worked: MONDAY THROUGH FRIDAY			
5. Hours of abatement work: 7 a.m. /p.m. - 5:30 a.m./p.m.			
6. Project site name: DUFUR SCHOOL			
7. Project site address: 802 NE 5TH ST			
Building, floor, room or unit number:			
City: DUFUR		State: OR	County: WASCO
			Zip: 97021
8. Project site contact: JAMES MASTANDUNO-PBS			Phone: 503-515-7489
9. Abatement contractor name: PERFORMANCE ABATEMENT SERVICES			DEQ license number: FSC 511
Address: 13600 NE 10TH AVE			
City: VANCOVUER		State: WA	Phone: 360-574-8400
			Zip: 98685
10. Quantity of asbestos material to be abated:		Linear feet: 260	Square feet: 3250
11. Asbestos disposal site name: WASCO CO LANDFILL		Address: 2550 STEEL RD, THE DALLES OR	

12. Type of facility: Residence (No. of units) <u>1</u> , School <input checked="" type="checkbox"/> , Hospital <input type="checkbox"/> , Apartments <input type="checkbox"/> , Commercial <input type="checkbox"/> , Industrial <input type="checkbox"/> , Equipment <input type="checkbox"/> , Ship <input type="checkbox"/> , Other		
13. List the asbestos-containing materials to be abated, the percent asbestos by each material, and where the asbestos-containing materials are located in the facility. Attach separate page if needed: BOILER ROOM- BOILER INSULATION-20% CHYRSTOTILE, PIPE INSULATION- 20-40% CHYSOTILE, SOUTH MECHANICAL LOFT- TANK INSULATION- 20% CHRYSOTILE, NORTH MECHANICAL LOFT- DUCT INSULATION- 20% CHRYSOTILE, OFFICE AREA & SOUTH CLASSROOM- VAT CHRYSOTILE 2-4 %		
14. Oregon Certified Supervisor(s): ROBERT JOHNSON		Phone: 503-519-4675
Oregon Certification number: S 15149		
15. Is the facility occupied or vacant? VACANT		
16. Present use of facility: SCHOOL	Future use of facility: SCHOOL	Approximate construction date: 1960'S
17. Survey performed or sample(s) collected?	Survey: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, assumed
18. Survey or samples collected by	Name: JAMES MASTANDUNO-PBS	Phone: 503-515-7489
19. Is this a demolition? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Complete or Partial demolition?	Is this a renovation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
20. Is the demolition State or local government ordered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name of government official who ordered the demolition: N/A	
Order date: N/A	Government initiated demolition start date: N/A	
21. Facility owner or operator name: DUFUR SCHOOL DISTRICT		Phone: 541-467-2509
Facility owner or operator address: 802 NE 5TH ST		
City: DUFUR	State: OR	Zip: 97021
22. Describe methods of asbestos abatement and disposal: WET METHODS, DOUBLE PACKAGING OF MATERIAL, HEPA VACUUM, NEGATIVE PRESSURE ENCLOSURE , CERTIFIED ASBESTOSWORKERS/SUPERVISORS, MANUAL METHODS, WRAP & CUT		
23. Waste hauler name: PERFORMANCE ABATEMENT SERVICES		Phone: 360-574-8400
Signature: 	Date: 5/23/19	Phone: 360-574-8400

I certify that the information contained in this notification are true and correct to the best of my knowledge and belief.

Reference: Oregon Administrative Rule 340-248-0260 for applicable notification requirements.

Please sign this form and deliver or mail with the fee payable to DEQ

Oregon Department of Environmental Quality
Financial Services - Revenue Section
700 NE Multnomah St., Suite 600
Portland, OR 97232-4100

Revisions to notifications may be scanned and emailed or faxed to the appropriate DEQ regional office

Northwest Region

Fax: 503-229-6957

Email: deqnwrasbestos@deq.state.or.us

Eastern Region

Fax: 541-388-8283

Email: Messina.Frank@deq.state.or.us

Western Region South, Coos Bay, Medford

Fax: 541-776-6262

Email: Croucher.Steve@deq.state.or.us

Western Region

Fax: 503-378-4196

Email: Boyd.Dottie@deq.state.or.us

Questions: Call DEQ at 1-800-452-4011 for your regional DEQ office contact or visit: www.oregon.gov/deq

19-07093



ASN 1 DEQ Project Notification Form For Abatement of Friable Asbestos-Containing Material

For DEQ use only	
Date Received	_____
Amount Received	_____
Check Number	_____
Project Number	_____

Attention: This notification must be complete, legible and received by DEQ at least 10 days before the start date of any friable asbestos abatement project and accompanied by the appropriate notification fee. Form instructions are online at: www.oregon.gov/deq

Project Category and Notification fee

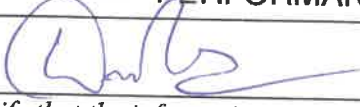
Emergency Abatement Project (Emergency notifications require a 50% fee increase.)
Emergency Approved by (DEQ staff name) _____ **Date** _____
Reason for Emergency _____
 (e.g., explanation: fire or water damage, dangerous structure, etc.)

Check one:

- A. \$100 Projects with less than 40 linear feet or 80 square feet of asbestos-containing material, or for each residential abatement project.
- B. \$200 Projects from 40 to 259 linear feet or 80 to 159 square feet of asbestos-containing material.
- C. \$400 Projects from 260 to 1,299 linear feet or 160 to 799 square feet of asbestos-containing material.
- D. \$525 Projects from 1,300 to 2,599 linear feet or 800 to 1,599 square feet of asbestos-containing material.
- E. \$900 Projects from 2,600 to 4,999 linear feet or 1,600 to 3,499 square feet of asbestos-containing material.
- F. \$1,050 Projects from 5,000 to 9,999 linear feet or 3,500 to 5,999 square feet of asbestos-containing material.
- G. \$1,700 Projects from 10,000 to 25,999 linear feet or 6,000 to 15,999 square feet of asbestos-containing material.
- H. \$2,800 Projects from 26,000 to 259,999 linear feet or 16,000 to 159,999 square feet of asbestos-containing material.
- I. \$3,500 Projects 260,000 linear feet or more or 160,000 square feet or more of asbestos-containing material.

Complete the following:

1. If this is a revision to a previous notification, provide the revision number: NO (ORIGINAL)			
List lines that have been revised on this form:			
2. Project start date: 6/5/19		3. Completion date: 6/14/19	
4. Days of week abatement to be worked: MONDAY THROUGH FRIDAY			
5. Hours of abatement work: 7 a.m. /p.m. - 5:30 a.m./p.m.			
6. Project site name: DUFUR SCHOOL			
7. Project site address: 802 NE 5TH ST			
Building, floor, room or unit number:			
City: DUFUR	State: OR	County: WASCO	Zip: 97021
8. Project site contact: JAMES MASTANDUNO-PBS			Phone: 503-515-7489
9. Abatement contractor name: PERFORMANCE ABATEMENT SERVICES			DEQ license number: FSC 511
Address: 13600 NE 10TH AVE			Phone: 360-574-8400
City: VANCOVUER	State: WA	Zip: 98685	
10. Quantity of asbestos material to be abated:		Linear feet: 260	Square feet: 3250
11. Asbestos disposal site name: WASCO CO LANDFILL		Address: 2550 STEEL RD, THE DALLES OR	

12. Type of facility: Residence (No. of units) <u>1</u> , School <input checked="" type="checkbox"/> , Hospital <input type="checkbox"/> , Apartments <input type="checkbox"/> , Commercial <input type="checkbox"/> , Industrial <input type="checkbox"/> , Equipment <input type="checkbox"/> , Ship <input type="checkbox"/> , Other		
13. List the asbestos-containing materials to be abated, the percent asbestos by each material, and where the asbestos-containing materials are located in the facility. Attach separate page if needed: BOILER ROOM- BOILER INSULATION-20% CHYRSTOTILE, PIPE INSULATION- 20-40% CHYSOTILE, SOUTH MECHANICAL LOFT- TANK INSULATION- 20% CHRYSOTILE, NORTH MECHANICAL LOFT- DUCT INSULATION- 20% CHRYSOTILE, OFFICE AREA & SOUTH CLASSROOM- VAT CHRYSOTILE 2-4 %		
14. Oregon Certified Supervisor(s): ROBERT JOHNSON		Phone: 503-519-4675
Oregon Certification number: S 15149		
15. Is the facility occupied or vacant? VACANT		
16. Present use of facility: SCHOOL	Future use of facility: SCHOOL	Approximate construction date: 1960'S
17. Survey performed or sample(s) collected?	Survey: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, assumed
18. Survey or samples collected by	Name: JAMES MASTANDUNO-PBS	Phone: 503-515-7489
19. Is this a demolition? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Complete or Partial demolition?	Is this a renovation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
20. Is the demolition State or local government ordered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name of government official who ordered the demolition: N/A	
Order date: N/A	Government initiated demolition start date: N/A	
21. Facility owner or operator name: DUFUR SCHOOL DISTRICT		Phone: 541-467-2509
Facility owner or operator address: 802 NE 5TH ST		
City: DUFUR	State: OR	Zip: 97021
22. Describe methods of asbestos abatement and disposal: WET METHODS, DOUBLE PACKAGING OF MATERIAL, HEPA VACUUM, NEGATIVE PRESSURE ENCLOSURE, CERTIFIED ASBESTOSWORKERS/SUPERVISORS, MANUAL METHODS, WRAP & CUT		
23. Waste hauler name: PERFORMANCE ABATEMENT SERVICES		Phone: 360-574-8400
Signature: 	Date: 5/23/19	Phone: 360-574-8400

I certify that the information contained in this notification are true and correct to the best of my knowledge and belief.

Reference: Oregon Administrative Rule 340-248-0260 for applicable notification requirements.

Please sign this form and deliver or mail with the fee payable to DEQ

Oregon Department of Environmental Quality
Financial Services - Revenue Section
700 NE Multnomah St., Suite 600
Portland, OR 97232-4100

Revisions to notifications may be scanned and emailed or faxed to the appropriate DEQ regional office

Northwest Region

Fax: 503-229-6957

Email: deqnwrasbestos@deq.state.or.us

Eastern Region

Fax: 541-388-8283

Email: Messina.Frank@deq.state.or.us

Western Region South, Coos Bay, Medford

Fax: 541-776-6262

Email: Croucher.Steve@deq.state.or.us

Western Region

Fax: 503-378-4196

Email: Boyd.Dottie@deq.state.or.us

Questions: Call DEQ at 1-800-452-4011 for your regional DEQ office contact or visit: www.oregon.gov/deq



The Identification Specialists

Analysis Report
prepared for
Performance Abatement Services

Report Date: 10/10/2019

Project Name: Dufur School

Project #: 19-07093

SanAir ID#: 19051947



NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061

888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com



SanAir ID Number
19051947
FINAL REPORT
10/10/2019 4:40:53 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/6/2019
Received Date: 10/8/2019 10:40:00 AM

Dear Robert Johnson,

We at SanAir would like to thank you for the work you recently submitted. The 5 sample(s) were received on Tuesday, October 08, 2019 via FedEx. The final report(s) is enclosed for the following sample(s): B1, B2, P3, EX, P.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in cursive script that reads "Sandra Sobrino".

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:

- 5 samples in Good condition.



SanAir ID Number
19051947
FINAL REPORT
10/10/2019 4:40:53 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/6/2019
Received Date: 10/8/2019 10:40:00 AM

Analyst: Witt, Christopher

Asbestos Air OSHA TWA NIOSH 7400

Sample	Location	Volume (liters)	Fibers	Fields	LOD	Fibers/ sq mm	Fibers/ cc	RSD
B1 19051947-001		0	<5.5	100		<7.0		0.26
B2 19051947-002		0	<5.5	100		<7.0		0.26
P3 19051947-003	Remove Tank Insulation Off Of Boiler	450	Overloaded					
EX 19051947-004	Remove Tank Insulation Off Of Boiler	75	Overloaded					
P 19051947-005	Remove Tank Insulation Off Of Boiler	450	Overloaded					

Analyst:

Approved Signatory:

Analysis Date: 10/10/2019

Date: 10/10/2019

Disclaimer

Final reports cannot be reproduced, except in full, without written authorization from SanAir. Results in the report are confidential information intended only for the use by the customer listed on the chain of custody. The accuracy of the results of the analysis is dependent upon the method of sample procurement and information provided by the client. SanAir assumes no responsibility or liability for the manner in which the results are used or interpreted. Samples were received in good condition unless otherwise noted on the report. Limit of Detection is 7 fibers/mm².

This report does not constitute endorsement by AIHA/NVLAP and/or any other U.S. governmental agencies; and may not be certified by every local, state and federal regulatory agencies.



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 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

**Asbestos
 Chain of Custody**

SanAir ID Number
 19051947

Company: PAS	Project #: 19-07093	Collected by: Robert Johnson
Address: 13600 NE 10th Ave	Project Name: Dufur School	Phone #: 503 519 4075
City, St., Zip: Vancouver WA 98685	Date Collected: 6-6-19	Fax #:
State of Collection: OR Account#:	P.O. Number: 19-07093	Email: Robert.Johnson@PAC.com

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input checked="" type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBEN	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>			
ABBCH	TEM Chatfield	<input type="checkbox"/>						
ABBTM	TEM EPA NOB	<input type="checkbox"/>						
Water			New York ELAP			Dust		
ABHE	EPA 100.2	<input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020	<input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480	<input type="checkbox"/>
			ABEPA2	NY ELAP 198.1	<input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755	<input type="checkbox"/>
			ABENY	NY ELAP 198.6 PLM NOB	<input type="checkbox"/>	Matrix	Other	
			ABBNY	NY ELAP 198.4 TEM NOB	<input type="checkbox"/>			<input type="checkbox"/>

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
B1					
B2					
P3	Remove Tank Insulation roll of Boiler		P	2.5	7AM 10:00
EX	SAME		EX	2.5	10:00 10:30
P	SAME		P	2.5	12pm 3pm

Relinquished by	Date	Time	Received by	Date	Time
Robert Johnson	6-6-19	5pm	MC	10/8/19	10:40AM



The Identification Specialists

Analysis Report
prepared for
Performance Abatement Services

Report Date: 10/10/2019

Project Name: Dufur School

Project #: 19-07093

SanAir ID#: 19051943



NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061

888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com



SanAir ID Number
19051943
FINAL REPORT
10/10/2019 4:33:16 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/7/2019
Received Date: 10/8/2019 10:40:00 AM

Dear Rob Johnson,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Tuesday, October 08, 2019 via FedEx. The final report(s) is enclosed for the following sample(s): P9, EX10, P11.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in black ink that reads "Sandra Sobrino". The signature is written in a cursive, flowing style.

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 3 samples in Good condition.



SanAir ID Number
19051943
 FINAL REPORT
 10/10/2019 4:33:16 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
 Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/7/2019
Received Date: 10/8/2019 10:40:00 AM

Analyst: Witt, Christopher

Asbestos Air OSHA TWA NIOSH 7400

Sample	Location	Volume (liters)	Fibers	Fields	LOD	Fibers/ sq mm	Fibers/ cc	RSD
P9	Anthony Andrade Removing Tank Insulation Off Of The Boiler	450	<5.5	100	0.006	7.006	<0.006	0.26
							TWA: <0.002	
19051943-001								
EX10	Anthony Andrade Removing Tank Insulation Off Of The Boiler	75	<5.5	100	0.036	7.006	<0.036	0.26
							TWA: <0.002	
19051943-002								
P11	Anthony Andrade Removing Tank Insulation Off Of The Boiler	675	<5.5	100	0.004	7.006	<0.004	0.26
							TWA: <0.002	
19051943-003								

Analyst:

Approved Signatory:

Analysis Date: 10/10/2019

Date: 10/10/2019

Disclaimer

Final reports cannot be reproduced, except in full, without written authorization from SanAir. Results in the report are confidential information intended only for the use by the customer listed on the chain of custody. The accuracy of the results of the analysis is dependent upon the method of sample procurement and information provided by the client. SanAir assumes no responsibility or liability for the manner in which the results are used or interpreted. Samples were received in good condition unless otherwise noted on the report. Limit of Detection is 7 fibers/mm².

This report does not constitute endorsement by AIHA/NVLAP and/or any other U.S. governmental agencies; and may not be certified by every local, state and federal regulatory agencies.



1551 Oakbridge Drive Suite B
 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

**Asbestos
 Chain of Custody**

SanAir ID Number 19051943

Company: PAS	Project #: 19-07093	Collected by: Rob Johnson
Address: 6600 NE 10 th Ave #100	Project Name: Dupont School	Phone #: 503 519 4075
City, St., Zip: Vancouver WA 98685	Date Collected: 6-7-19	Fax #:
State of Collection: OR Account#:	P.O. Number: 19-07093	Email: Robert.Johnson@PAC.com

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input checked="" type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBen	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>			
ABBCH	TEM Chatfield	<input type="checkbox"/>						
ABBTM	TEM EPA NOB	<input type="checkbox"/>						
Water			New York ELAP			Dust		
ABHE	EPA 100.2	<input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020	<input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480	<input type="checkbox"/>
			ABEPA2	NY ELAP 198.1	<input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755	<input type="checkbox"/>
			ABENY	NY ELAP 198.6 PLM NOB	<input type="checkbox"/>			
			ABBNY	NY ELAP 198.4 TEM NOB	<input type="checkbox"/>	Matrix	Other	<input type="checkbox"/>

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
P 9	Anthony Andrade Removing Tank Insulation off of the Boiler in the Boiler Rm.		P	2.3	7:00 - 10:00
EX 10	SAME		EX	2.5	10:00 - 10:30
P 11	SAME		P	2.5	10:30 - 3:00

Relinquished by: Robert Johnson	Date: 6-7-19	Time: 4:00	Received by: MC	Date: 6/8/19	Time: 10:40 AM
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The Identification Specialists

Analysis Report
prepared for
Performance Abatement Services

Report Date: 10/10/2019

Project Name: Dufur School

Project #: 19-07093

SanAir ID#: 19051949



NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061

888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com



SanAir ID Number
19051949
FINAL REPORT
10/10/2019 4:54:06 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/7/2019
Received Date: 10/8/2019 10:40:00 AM

Dear Robert Johnson,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Tuesday, October 08, 2019 via FedEx. The final report(s) is enclosed for the following sample(s): P6, EX7, P8.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in cursive script that reads "Sandra Sobrino".

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:

- 3 samples in Good condition.



SanAir ID Number
19051949
 FINAL REPORT
 10/10/2019 4:54:06 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
 Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/7/2019
Received Date: 10/8/2019 10:40:00 AM

Analyst: Witt, Christopher

Asbestos Air OSHA TWA NIOSH 7400

Sample	Location	Volume (liters)	Fibers	Fields	LOD	Fibers/ sq mm	Fibers/ cc	RSD
P6	Kevin Johnson Removing TSI Off Of Pipes In The Loft Area	450	<5.5	100	0.006	7.006	<0.006	0.26
19051949-001							TWA: <0.002	
EX7	Kevin Johnson Removing TSI Off Of Pipes In The Loft Area	75	Overloaded					
19051949-002								
P8	Kevin Johnson Removing TSI Off Of Pipes In The Loft Area	450	<5.5	100	0.006	7.006	<0.006	0.26
19051949-003							TWA: <0.002	

Analyst:

Christopher E. Witt

Approved Signatory:

Jonathan Wilson

Analysis Date: 10/10/2019

Date: 10/10/2019

Disclaimer

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This report does not constitute endorsement by AIHA/NVLAP and/or any other U.S. governmental agencies; and may not be certified by every local, state and federal regulatory agencies.



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 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

**Asbestos
 Chain of Custody**

SanAir ID Number
 19051949

Company: PAS	Project #: 19-07093	Collected by: Robert Johnson
Address: 13600 NE 10th Ave	Project Name: Dufur School	Phone #: 503-519-9075
City, St., Zip: Vancouver WA 98685	Date Collected: 6-7-19	Fax #:
State of Collection: OR	Account#:	P.O. Number: 19-07093
		Email: Robert.Johnson@pco.com

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input checked="" type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBEN	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>	Dust ABWA TEM Wipe ASTM D-6480 <input type="checkbox"/> ABDMV TEM Microvac ASTM D-5755 <input type="checkbox"/> Matrix Other <input type="checkbox"/>		
ABBCH	TEM Chatfield	<input type="checkbox"/>	New York ELAP PLM NY PLM EPA 600/M4-82-020 <input type="checkbox"/> ABEPA2 NY ELAP 198.1 <input type="checkbox"/> ABENY NY ELAP 198.6 PLM NOB <input type="checkbox"/> ABBNY NY ELAP 198.4 TEM NOB <input type="checkbox"/>					
ABBTM	TEM EPA NOB	<input type="checkbox"/>						
ABHE	EPA 100.2	<input type="checkbox"/>						

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
P 6	Kevin Johnson removing TSI off of pipes in the loft area		P	2.5	7:30 10:30
EX 7	SAME		EX	2.5	11:30 11 AM
P 8	SAME		P	2.5	12 PM 3 PM

Relinquished by	Date	Time	Received by	Date	Time
Robert Johnson	6-7-19	4 pm	ML	10/8/19	10:40 AM



The Identification Specialists

Analysis Report
prepared for
Performance Abatement Services

Report Date: 10/10/2019

Project Name: Dufur School

Project #: 19-07093

SanAir ID#: 19051950



NVLAP LAB CODE 200870-0

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SanAir ID Number
19051950
FINAL REPORT
10/10/2019 4:56:53 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/11/2019
Received Date: 10/8/2019 10:40:00 AM

Dear Rob Johnson,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Tuesday, October 08, 2019 via FedEx. The final report(s) is enclosed for the following sample(s): P12, EX13, P14.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in black ink that reads "Sandra Sobrino". The signature is written in a cursive, flowing style.

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 3 samples in Good condition.



SanAir ID Number
19051950
 FINAL REPORT
 10/10/2019 4:56:53 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
 Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/11/2019
Received Date: 10/8/2019 10:40:00 AM

Analyst: Witt, Christopher

Asbestos Air OSHA TWA NIOSH 7400

Sample	Location	Volume (liters)	Fibers	Fields	LOD	Fibers/ sq mm	Fibers/ cc	RSD
P12	Victor Hernandez Removing Floor Tile In The Office Area	375	<5.5	100	0.007	7.006	<0.007	0.26
							TWA: <0.002	
EX13	Victor Hernandez Removing Floor Tile In The Office Area	75	<5.5	100	0.036	7.006	<0.036	0.26
							TWA: <0.002	
P14	Victor Hernandez Removing Floor Tile In The Office Area	600	<5.5	100	0.004	7.006	<0.004	0.26
							TWA: <0.002	

Analyst:

Approved Signatory:

Analysis Date: 10/10/2019

Date: 10/10/2019

Disclaimer

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**Asbestos
 Chain of Custody**

SanAir ID Number 19051950

Company: PAS	Project #: 19-07093	Collected by: Rob Johnson
Address: 13600 NE 10th Ave	Project Name: Dufur School	Phone #: 503 519 4075
City, St., Zip: Wenatchee WA 98855	Date Collected: 6-11-19	Fax #:
State of Collection: OR	Account#:	P.O. Number: 19-07093
		Email: Rob Johnson@PCL.com

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input checked="" type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBEN	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>	Dust		
ABBCH	TEM Chatfield	<input type="checkbox"/>	New York ELAP					
ABBTM	TEM EPA NOB	<input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020	<input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480	<input type="checkbox"/>
Water			ABEPA2	NY ELAP 198.1	<input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755	<input type="checkbox"/>
ABHE	EPA 100.2	<input type="checkbox"/>	ABENY	NY ELAP 198.6 PLM NOB	<input type="checkbox"/>	Matrix Other		
			ABBNY	NY ELAP 198.4 TEM NOB	<input type="checkbox"/>	<input type="checkbox"/>		

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
P 12	Victor Hernandez removing floor tile in the office area		P	2.5	7:30 10:00
EX 13	SAME		EX	2.5	10:00 10:30
P 14	SAME		P	2.5	11AM 3PM

Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	6-11-19	4pm	AC	10/8/19	10:40AM



The Identification Specialists

Analysis Report
prepared for
Performance Abatement Services

Report Date: 10/10/2019

Project Name: Dufur School

Project #: 19-07093

SanAir ID#: 19051939



NVLAP LAB CODE 200870-0

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SanAir ID Number
19051939
FINAL REPORT
10/10/2019 4:27:56 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/13/2019
Received Date: 10/8/2019 10:40:00 AM

Dear Rob Johnson,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Tuesday, October 08, 2019 via FedEx. The final report(s) is enclosed for the following sample(s): P15, EX16, P17.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in black ink that reads "Sandra Sobrino". The signature is written in a cursive, flowing style.

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:

- 3 samples in Good condition.



SanAir ID Number
19051939
FINAL REPORT
10/10/2019 4:27:56 PM

Name: Performance Abatement Services
Address: 13600 NE 10th Ave
Vancouver, WA 98685
Phone: 360-574-8400

Project Number: 19-07093
P.O. Number: 19-07093
Project Name: Dufur School
Collected Date: 6/13/2019
Received Date: 10/8/2019 10:40:00 AM

Analyst: Witt, Christopher

Asbestos Air OSHA TWA NIOSH 7400

Sample	Location	Volume (liters)	Fibers	Fields	LOD	Fibers/ sq mm	Fibers/ cc	RSD
P15	Victor Hernandez Removing CAB Panels On The Exterior	300	<5.5	100	0.009	7.006	<0.009	0.26
19051939-001							TWA: <0.002	
EX16	Victor Hernandez Removing CAB Panels On The Exterior	75	<5.5	100	0.036	7.006	<0.036	0.26
19051939-002							TWA: <0.002	
P17	Victor Hernandez Removing CAB Panels On The Exterior	675	<5.5	100	0.004	7.006	<0.004	0.26
19051939-003							TWA: <0.002	

Analyst:

Approved Signatory:

Analysis Date: 10/10/2019

Date: 10/10/2019

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**Asbestos
 Chain of Custody**

SanAir ID Number 19051939

Company: <u>PAS</u>	Project #: <u>PA-07093</u>	Collected by: <u>Rob Johnson</u>
Address: <u>13600 NE 102 Ave</u>	Project Name: <u>DuRoi School</u>	Phone #: <u>503 519 4075</u>
City, St., Zip: <u>Vancouver, WA 98685</u>	Date Collected: <u>6-13-19</u>	Fax #:
State of Collection: <u>OR</u>	Account#:	P.O. Number: <u>PA-07093</u>
		Email: <u>Robert.Johnson@PAC.com</u>

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input checked="" type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBEN	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>			
ABBCH	TEM Chatfield	<input type="checkbox"/>				Dust		
ABBTM	TEM EPA NOB	<input type="checkbox"/>				ABWA	TEM Wipe ASTM D-6480	<input type="checkbox"/>
			New York ELAP			ABDMV	TEM Microvac ASTM D-5755	<input type="checkbox"/>
			PLM NY	PLM EPA 600/M4-82-020	<input type="checkbox"/>			
			ABEPA2	NY ELAP 198.1	<input type="checkbox"/>			
			ABENY	NY ELAP 198.6 PLM NOB	<input type="checkbox"/>			
			ABBNY	NY ELAP 198.4 TEM NOB	<input type="checkbox"/>			
						Matrix Other		
								<input type="checkbox"/>

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
<u>P 15</u>	<u>Victor Hernandez removing CAB Panels on the Exterior of the Building</u>		<u>P 15</u>	<u>2.5</u>	<u>8 AM 10:00</u>
<u>EX 16</u>	<u>Same</u>		<u>EX</u>	<u>2.5</u>	<u>10:00 10:30</u>
<u>P 17</u>	<u>Same</u>		<u>P</u>	<u>2.5</u>	<u>10:31 3pm</u>

Relinquished by	Date	Time	Received by	Date	Time
<u>[Signature]</u>	<u>6-13-19</u>	<u>3pm</u>	<u>RC</u>	<u>10/8/19</u>	<u>10:40AM</u>



Project Daily Log

Branch: 23 Project Name: Dufur School Date: 6/5/2019

Building/Floor/Area: Boiler RM / loft areas Job#: 19-07093

Questions:

Has each employee signed the Job Site Orientation Checklist?	Yes/No Y _____
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	Y _____
Are approved abatement techniques being used?	Y _____
Are dust control procedures being complied with?	Y _____
Is the abatement/work area isolated and are the appropriate warning signs posted?	Y _____
Have work area barriers been checked at the beginning and end of each shift?	Y _____
Are personnel exposure levels being monitored (by PAS and/or others)?	Y _____
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	Y _____

Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8		
2	Kevin Johnson	22368	8		
3	Daniel McConnell	22419	8		
4	Hector Valles	21790	8		
5	Justin Waser	21946	8		
6	Natalie Watts	22412	8		
7	Luis Mejia	22393	8		
8	Charles Haluapo JR	22047	8		
9	Reilly Watts	22411	8		
10	Martin Rizo	22151	8		
11	Luis Ramirez	21255	8		
12	Anthony Andrade	21732	8		
13	Jorgenis Lamontana	22195	8		
14	Salvador Ventura	21624	8		
15					



Project Name: Dufur School Job #: 19-07093 Date: 5-Jun

DESCRIPTION OF WORK: 8AM Crew arrived site and have a safety meeting with Darren Watts and Robert Johnson, crew starting to unload the trailer and fill out pre-task plans for prep. Crew is starting to move the equipment and supplies to the boiler RM and the loft Area above the stage. 9AM Crew is starting to prep the boiler room and the loft areas. 12PM Crew is at lunch until 1 PM. 1:30 PM Crew is starting to prep the boiler room and the loft areas. 3:30 PM Crew is starting to clean up and put supplies and equipment away.

I have not had a safety violation, injury or accident today and am eligible for the Safety Incentive Program. Hoy no he tenido ninguna violacion de seguridad, herida o accidente, y soy por el Programa Incentivo de Seguridad (Safety Incentive program).

Sign:	Sign:
Sign:	Sign:
Sign:	Sign:
Sign:	Sign:
Sign:	Sign:

Prepared by: Supervisor Cert#: 15149

✓



Project Daily Log

Branch: 23 Project Name: Dufur School Date: 6/6/2019

Building/Floor/Area: Boiler RM / loft areas Job#: 19-07093

Questions:

Has each employee signed the Job Site Orientation Checklist?	Yes/No Y
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	Y
Are approved abatement techniques being used?	Y
Are dust control procedures being complied with?	Y
Is the abatement/work area isolated and are the appropriate warning signs posted?	Y
Have work area barriers been checked at the beginning and end of each shift?	Y
Are personnel exposure levels being monitored (by PAS and/or others)?	Y
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	Y

Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8		
2	Kevin Johnson	22368	8		
3	Daniel McConnell	22419	8		
4	Hector Valles	21790	8		
5	Justin Waser	21946	8		
6	Natalie Watts	22412	8		
7	Luis Mejia	22393	8		
8	Charles Haluapo JR	22047	8		
9	Reilly Watts	22411	8		
10	Martin Rizo	22151	8		
11	Luis Ramirez	21255	8		
12	Anthony Andrade	21732	8		
13	Jorgenis Lamontana	22195	8		
14	Salvador Ventura	21624	8		
15					



Project Name: Dufur School Job #: 19-07093 Date: 6-Jun

7AM crew arrived on site And have a site safety meeting. We discussed not smoking on school Property and good housekeeping making sure we clean up as we Remove insulation from the boiler Room and the loft areas Above the stage. We also talked about PPE for this site. Bag out as you go. 8AM Daniels crew is continuing removing insulation off of the boiler And they are cutting the pipe Out and wrapping. Kevin's crew It's starting to remove the tank installation of the tank in loft areas On the north side of the stage. Natalie and Riley are loading out bags and staging them in room last area. Called Clark and Darren about My dumpster situation that I cannot get a lidded dumpster from The Dalles disposal. Darren informed me that either Waste Connection or Ray will be on site Monday to pick up my bags and waste. So I will stage my bags and wraps in the last Work area. 11AM Crew Is going to lunch until 12 PM. 12 PM crew is continuing working in the boiler room and The loft area on the stage. Guys are starting to prep the last room down the hallway. Tile and pulling cove base. 2PM PBS it's going into the container to do it first visual in the loft area. 2:30PM Did not pass first vision in the loft area. Crew is going back inside Containment to re-clean. 3PM Crew is starting to clean up and put tools away for the night. 3:30PM end of shift.

I have not had a safety violation, injury or accident today and am eligible for the Safety Incentive Program. Hoy no he tenido ninguna violacion de seguridad, herida o accidente, y soy por el Programa Incentivo de Seguridad (Safety Incentive program).

Sign:	Sign:
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Sign:	Sign:

Prepared by: Supervisor Cert#: 15149

✓



Project Daily Log

Branch: 23 Project Name: Dufur School Date: 6/7/2019

Building/Floor/Area: Boiler RM / loft areas Job#: 19-07093

Questions:

Has each employee signed the Job Site Orientation Checklist?	Yes/No Y
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	Y
Are approved abatement techniques being used?	Y
Are dust control procedures being complied with?	Y
Is the abatement/work area isolated and are the appropriate warning signs posted?	Y
Have work area barriers been checked at the beginning and end of each shift?	Y
Are personnel exposure levels being monitored (by PAS and/or others)?	Y
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	Y

Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8		
2	Kevin Johnson	22368	8		
3	Daniel McConnell	22419	8		
4	Hector Valles	21790	8		
5	Justin Waser	21946	8		
6	Natalie Watts	22412	8		
7	Luis Mejia	22393	8		
8	Charles Haluapo JR	22047	8		
9	Reilly Watts	22411	8		
10	Martin Rizo	22151	8		
11	Luis Ramirez	21255	8		
12	Anthony Andrade	21732	8		
13	Jorgenis Lamontana	22195	8		
14	Salvador Ventura	21624	4		
15					



Project Name: Dufur School Job #: 19-07093 Date: 7-Jun

7AM Crew arrived on site and had a safety meeting and walked the work areas to make sure that all of the containments were in good shape with no openings. Crew is starting to do stretch and flex and fill pre-task plans. Robert had a Conversation with Darren about the issue that we had in the boiler RM On Thursday (6-6-19). Robert was told by the school custodian, Kevin, that the pipes and tank that we were going to cut was drained. Once we started cutting the bottom pipe off of the tank, the tank Started leaking and we had to bag 150 gallons of water from the tank. This screwup cost PAS about 4 hours of work it's 4 men chasing the water because it was flooding my boiler room. I then had to Filter the water to get it out of the containment. When this happened I informed Kevin, the Custodian, and PBS about water being in the tank. I informed PBS that I was not going to cut Any of the pipes in the loft areas just because I do not know if the water has been drained out of the Tank and pipes. 8AM Crew is continuing to remove ACM in the boiler room and the Second loft area. 12PM Half of the crew is starting to pull carpet to prep the office area. Three other guys are final-Cleaning the second loft area. The last of the crew our starting to remove the CAB panels from the Exterior leave. PBS is starting to run clearance in the boiler room area. 3PM crew starting to clean up and put tools and equipment away for the weekend. 3:30PM end of shift.

I have not had a safety violation, injury or accident today and am eligible for the Safety Incentive Program. Hoy no he tenido ninguna violacion de seguridad, herida o accidente, y soy por el Programa Incentivo de Seguridad (Safety Incentive program).

Sign:	Sign:
Sign:	Sign:
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Sign:	Sign:
Sign:	Sign:
Sign:	Sign: -

Prepared by: Supervisor Cert#: 15149

✓



Project Daily Log

Branch: 23 Project Name: Dufur School Date: #####

Building/Floor/Area: Boiler RM / loft areas Job#: 19-07093

Questions:

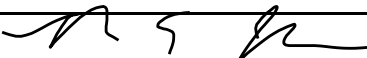
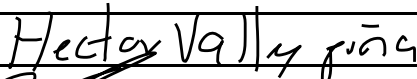
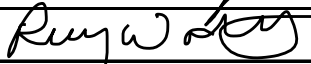



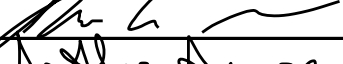

Has each employee signed the Job Site Orientation Checklist?	Yes/No Y _____
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	Y _____
Are approved abatement techniques being used?	Y _____
Are dust control procedures being complied with?	Y _____
Is the abatement/work area isolated and are the appropriate warning signs posted?	Y _____
Have work area barriers been checked at the beginning and end of each shift?	Y _____
Are personnel exposure levels being monitored (by PAS and/or others)?	Y _____
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	Y _____

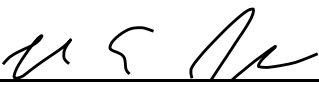
Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8		
2	Kevin Johnson	22368	8		
3	Hector Valles	21790	8		
4	Natalie Watts	22412	8		
5	Reilly Watts	22411	8		
6	Martin Rizo	22151	8		
7	Anthony Andrade	21732	8		
8	Victor Hernandez	21868	8		
9					
10					
11					
12					
13					
14					
15					



Project Name: Dufur School Job #: 19-07093 Date: 10-Jun

7AM crew arrived on site and had a safety meeting and walking the work areas. Crew is starting to	
Fill out the pre-task plans. Crew starting to move equipment and supplies to the work area.	
7:30AM Kevin and two guys were starting to prep and remove floor tile and mastic in the last room	
down the hallway. Victor and three man or starting to prep and remove floor tile and mastic in the	
Office areas. PBS is running clearance in the 2nd loft area. First ACM dumpster is leaving site.	
10:14 AM kevin's crew is starting to remove flooring in the last room	
down the hallway. Victor and three man or starting to prep and remove floor tile and mastic in the	
In office area. There is leveling compound underneath the tile in the	
class room at the end of the hallway. I spoke to Brian with PBS about	
the leveling compound. Brian with PBS Informed me to move forward	
With the flooring and remove the leveling compound but keep track	
Of the time it takes to remove the leveling compound.	
2PM Victor and his guys are starting to tear down the first loft area.	
3PM crew is starting to clean up and put tools away the night.	
3:30PM end of shift.	
Sign: 	Sign: 
Sign: 	Sign: 
Sign: 	Sign: 
Sign: 	Sign:
Sign: 	Sign:

Prepared by:  Supervisor Cert#: 15149

✓

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Project Daily Log

Branch: 23 Project Name: Dufur School Date: #####

Building/Floor/Area: Office area and the last class room down the hallway Job#: 19-07093

Questions:

Has each employee signed the Job Site Orientation Checklist?	Yes/No Y _____
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	Y _____
Are approved abatement techniques being used?	Y _____
Are dust control procedures being complied with?	Y _____
Is the abatement/work area isolated and are the appropriate warning signs posted?	Y _____
Have work area barriers been checked at the beginning and end of each shift?	Y _____
Are personnel exposure levels being monitored (by PAS and/or others)?	Y _____
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	Y _____

Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8	1	
2	Kevin Johnson	22368	8	1	
3	Hector Valles	21790	8	1	
4	Natalie Watts	22412	8	1	
5	Reilly Watts	22411	8	1	
6	Martin Rizo	22151	8	1	
7	Anthony Andrade	21732	8	1	
8	Victor Hernandez	21868	8	1	
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14					
15					



Project Name: Dufur School Job #: 19-07093 Date: 11-Jun

7AM crew arrived on site and had a safety meeting and stretch and flex.

7:15AM Crew is starting to walk both containment for any leaks and any Walls that are coming down in the office area and the last room down hallway. Crew is starting to fill out pre-task plans. Kevin and his two goys are starting to remove floor mastic in the last room down the hallway. Victor and his 3 guys starting to remove floor tile in the office.

12PM Crew is starting to tear down the boiler room containment and load out bags.

3:30PM Crew is starting to load out drums from the Office area in the room down the hallway.

4:30PM end of shift.

Sign:	Sign:
Sign:	Sign:
Sign:	Sign:
Sign:	Sign:
Sign:	Sign:

Prepared by: Supervisor Cert#: 15149

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✓



Project Daily Log

Branch: 23 Project Name: Dufur School Date: #####

Building/Floor/Area: Office area and the last class room down the hallway Job#: 19-07093

Questions:

Has each employee signed the Job Site Orientation Checklist?	Yes/No Y _____
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	Y _____
Are approved abatement techniques being used?	Y _____
Are dust control procedures being complied with?	Y _____
Is the abatement/work area isolated and are the appropriate warning signs posted?	Y _____
Have work area barriers been checked at the beginning and end of each shift?	Y _____
Are personnel exposure levels being monitored (by PAS and/or others)?	Y _____
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	Y _____

Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8		
2	Kevin Johnson	22368	8		
3	Hector Valles	21790	8		
4	Natalie Watts	22412	8		
5	Reilly Watts	22411	8		
6	Martin Rizo	22151	8		
7	Anthony Andrade	21732	8		
8	Victor Hernandez	21868	8		
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13					
14					
15					



Project Daily Log

Branch: 23 Project Name: Dufur School Date: #####

Building/Floor/Area: South side exterior building/Front of the school Job#: 19-07093

Questions:

Has each employee signed the Job Site Orientation Checklist?	Yes/No Y _____
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	Y _____
Are approved abatement techniques being used?	Y _____
Are dust control procedures being complied with?	Y _____
Is the abatement/work are isolated and are the appropriate warning signs posted?	Y _____
Have work area barriers been checked at the beginning and end of each shift?	Y _____
Are personnel exposure levels being monitored (by PAS and/or others)?	Y _____
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	Y _____

Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8		
2	Kevin Johnson	22368	0		
3	Hector Valles	21790	8		
4	Natalie Watts	22412	8		
5	Reilly Watts	22411	0		
6	Martin Rizo	22151	8		
7	Anthony Andrade	21732	8		
8	Victor Hernandez	21868	8		
9	Mike kufur	22016	8		
10	Ken Judkins	22011	8		
11					
12					
13					
14					
15					



Project Name: Dufur School Job #: 19-07093 Date: 13-Jun

7AM Crew arrived on site and had a safety meeting and walking the work. Crew is starting to fill out	
Pre-task plans to remove the CAB panels and the windows on the south side of the school.	
7:30PM crew is starting to remove the windows and the CAB panels on the southside of the school.	
8AM Mike and Ken arrived on site and is helping the guys remove windows.	
10:30AM Crew is starting to remove CAB in front of the school. Crew is loaded out as they demo.	
2PM Crew is starting to tear down containment in the loft area above the stage.	
3pm End of shaft.	
CO # 3 Removing the siding and the plywood below the windows that we are demoing because	
The windows go from the roofline to the ground. 5 HR total. Five guys for 1 hour.	
I went over this with PBS and the GC. They instructed me to move forward keep track of the hours.	
Sign: <i>[Signature]</i>	Sign: <i>Hector Valles pm</i>
Sign: <i>[Signature]</i>	Sign: <i>[Signature]</i>
Sign: <i>[Signature]</i>	Sign: <i>[Signature]</i>
Sign: <i>[Signature]</i>	Sign: <i>[Signature]</i>
Sign: <i>[Signature]</i>	Sign: <i>[Signature]</i>

Prepared by: *[Signature]* Supervisor Cert#: 15149

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Project Daily Log

Branch: 23 Project Name: Dufur School Date: #####

Building/Floor/Area: Front entrance of school. Job#: 19-07093

<u>Questions:</u>	Yes/No
Has each employee signed the Job Site Orientation Checklist?	<u>Y</u>
Has each employee received documented training and instruction on proper work practices and procedures for the type of work being conducted?	<u>Y</u>
Are approved abatement techniques being used?	<u>Y</u>
Are dust control procedures being complied with?	<u>Y</u>
Is the abatement/work are isolated and are the appropriate warning signs posted?	<u>Y</u>
Have work area barriers been checked at the beginning and end of each shift?	<u>Y</u>
Are personnel exposure levels being monitored (by PAS and/or others)?	<u>Y</u>
Is the proper Personal Protective Equipment being used (including hard hats, safety glasses, gloves, work boots, and back supports)?	<u>Y</u>

Today's Crew:

#	Name	Cert#	1X	1.5X	2X
1	Robert Johnson	15149	8		
2	Hector Valles	21790	8		
3	Martin Rizo	22151	8		
4	Victor Hernandez	21868	8		
5	Mike kufur	22016	8		
6	Ken Judkins	22011	8		
7					
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15					



Project Name: Dufur School Job #: 19-07093 Date: 14-Jun

7AM Crew arrived on site and had a safety meeting. Crew is doing stretch and flex. We are walking

the work area and filling out pre-task plans for the the removal of CAB panels In Front of the school.

7:30AM Crew is starting to remove CAB panels In front of school. Robert is starting to clean up.

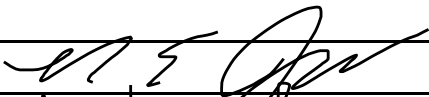
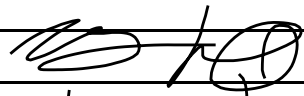
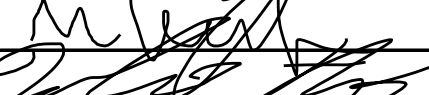
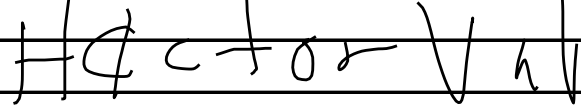

9AM 2nd 20 CY dumpster is leaving site. We had 2 20 CY dumpsters for this project.

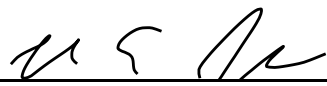
10AM Crew is starting to tear donw the containment in the office area. Ray is on site to box van.

1PM crew is starting to load the trailer with supplies and tools. Still waiting on clearances in the Last classroom down the hallway.

3PM Crew is starting to tear down the last containment down the hallway

4pm End of shift.

Sign: 	Sign: 
Sign: 	Sign: 
Sign: 	Sign:
Sign:	Sign:

Prepared by:  Supervisor Cert#: 15149

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les

19-07093

load # 1



PLEASE PRINT OR TYPE. If you have questions, contact your local DEQ Regional Office in Portland 503-229-5364, Salem 503-378-5086, Medford 541-776-6107, Coos Bay 541-269-2721 ext. 222, Bend 541-633-2019, or Pendleton 541-278-4626.

WASTE GENERATOR: (Contractor, Facility, or Operator)

1. Asbestos removal site name and address: Dufer School
803 NE 5th St Dufer OR Wasco
Street City/State County Zip

Contact person: James Mustanduno Phone: 503 515 7489

2. Contractor/Operator's name and address: Performance Abatement Services Phone: 360-574-8400
13600 NE 10th Ave. Vancouver, WA Clark 98685
Street City/State County Zip

3. Waste disposal site: Wasco County Landfill Phone: 541-296-4082
2550 Steele Rd The Dalles, OR Wasco 97058
Street City/State County Zip

4. Describe asbestos materials: T&I

5. Containers: Number: 13 wrap and 79 Bags Type: Wraps/Bags

6. Total quantity (cubic yards): 20 cy

7. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled, and are in all respects in proper condition for transport according to all government regulations. All movement of this asbestos-containing material is recorded on this Waste Shipment Record Form.

Agent: Robert Jchuscy Company: Performance Abatement Services

Address: 13600 NE 10th Ave., Vancouver, WA 98685 Phone: 360-574-8400

TRANSPORTER(S):

8. Transporter #1: (Acknowledgment of receipt of materials)
Agent: Jim M... .. Company: The Dalles Disposal
Address: 1317 W 1st Street Phone: 541-298-5149
Signature: [Signature] Date: 6-12-19

9. Transporter #2: (Acknowledgment of receipt of materials)
Agent: _____ Company: _____
Address: _____ Phone: _____
Signature: _____ Date: _____

DISPOSAL: (Certification of receipt of asbestos materials covered by this manifest, except as noted in item 11 below.)

10. Waste Disposal Site: WASCO COUNTY LANDFILL
Name and Title: _____ 2550 STEELE ROAD Date: JUN 10 2019
THE DALLES, OR 97058
Signature: [Signature] Phone: 541-296-4082

11. DISCREPANCY SPACE: (Add attachments as needed) _____

load # 2 18-106
19-07093

ASN 4

ASBESTOS WASTE SHIPMENT REPORT FORM



PLEASE PRINT OR TYPE. If you have questions, contact your local DEQ Regional Office in Portland 503-229-5364, Salem 503-378-5086, Medford 541-776-6107, Coos Bay 541-269-2721 ext. 222, Bend 541-633-2019, or Pendleton 541-278-4626.

WASTE GENERATOR: (Contractor, Facility, or Operator)

1. Asbestos removal site name and address: Dufur School
803 SE 5th St Dufur OR Wasco
Street City/State County Zip
Contact person: James H Phone: 503 319 9814

2. Contractor/Operator's name and address: Performance Abatement Services Phone: 360-574-8400
13600 NE 10th Ave. Vancouver, WA Clark 98685
Street City/State County Zip

3. Waste disposal site: Wasco County Landfill Phone: 541-296-4082
2550 Steele Rd The Dalles, OR Wasco 97058
Street City/State County Zip

4. Describe asbestos materials: CAB, floor tile, windows
5. Containers: Number: 15 DRUMS, 31 Bags Type: DRUMS, Bags, wraps
6. Total quantity (cubic yards): 9 wraps 20 cy

7. **OPERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled, and are in all respects in proper condition for transport according to all government regulations. All movement of this asbestos-containing material is recorded on this Waste Shipment Record Form.

Agent: Robert Johnson Company: Performance Abatement Services
Address: 13600 NE 10th Ave., Vancouver, WA 98685 Phone: 360-574-8400

TRANSPORTER(S):

8. Transporter #1: (Acknowledgment of receipt of materials)
Agent: the Dalles person Company: Waste Connection
Address: 1317 W 1st Phone: 541-298-5148
Signature: [Signature] Date: _____

9. Transporter #2: (Acknowledgment of receipt of materials)
Agent: _____ Company: _____
Address: _____ Phone: _____
Signature: _____ Date: _____

DISPOSAL: (Certification of receipt of asbestos materials covered by this manifest, except as noted in item 11 below.)

10. Waste Disposal Site: WASCO COUNTY LANDFILL
Name and Title: Linda Miller Date: JUN 14 2019
Signature: [Signature] Phone: 541-296-4082

11. **DISCREPANCY SPACE:** (Add attachments as needed)

19-07093

ASN 4

ASBESTOS WASTE SHIPMENT REPORT FORM

Box VAN.



PLEASE PRINT OR TYPE. If you have questions, contact your local DEQ Regional Office in Portland 503-229-5364, Salem 503-378-5086, Medford 541-776-6107, Coos Bay 541-269-2721 ext. 222, Bend 541-633-2019, or Pendleton 541-278-4626.

WASTE GENERATOR: (Contractor, Facility, or Operator)

1. Asbestos removal site name and address: DUFUR School, 803 SE 5th St, DUFUR OR, Wasco, Zip

Contact person: James Mastanduno, Phone:

2. Contractor/Operator's name and address: Performance Abatement Services, 13600 NE 10th Ave, Vancouver, WA, Clark, 98685, Phone: 360-574-8400

3. Waste disposal site: Wasco County Landfill, 2550 Steele Rd, The Dalles, OR, Wasco, 97058, Phone: 541-296-4082

4. Describe asbestos materials: CAB containment Poly.

5. Containers: Number: 7113, Type: DUM DRUMS, BAGS

6. Total quantity (cubic yards): 10 cy

7. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled, and are in all respects in proper condition for transport according to all government regulations. All movement of this asbestos-containing material is recorded on this Waste Shipment Record Form.

Agent: Robert Johnson, Company: Performance Abatement Services

Address: 13600 NE 10th Ave., Vancouver, WA 98685, Phone: 360-574-8400

TRANSPORTER(S):

8. Transporter #1: (Acknowledgment of receipt of materials) Agent: Ray Burfield, Company: Performance Abatement Services, Address: 13600 NE 10th Ave., Vancouver WA 98685, Phone: 360-574-8400, Signature: [Signature], Date: 6-14-19

9. Transporter #2: (Acknowledgment of receipt of materials) Agent: MG, Arrow Sanitary Service, Company: Arrow Sanitary Service, Address: 5455 NE 109th Ave, Portland, OR 97220, Phone: ph. 503-257-1331 - f. 503-257-8099, Signature: [Signature], Date: 6-20-19

DISPOSAL: (Certification of receipt of asbestos materials covered by this manifest, except as noted in item 11 below.)

10. Waste Disposal Site: WASCO COUNTY LANDFILL, Name and Title: Linda Miller, 2550 STEELE ROAD, THE DALLES, OR 97058, Date: 6-14-19, Phone: 541-296-4082

11. DISCREPANCY SPACE: (Add attachments as needed)

Limited Asbestos Survey Report

Dufur School
802 E 5th Street
Dufur, OR 97021

Prepared for:

Dufur School District #29

General Information	1.1
Inspection Summary	1.2
Sample Inventories	2.1
Laboratory Data	Not Numbered
AHERA Certificates	Not Numbered



July 2020

Project No.: 25842.004 Phase No.: 0001 Task No.: 001

4412 S Corbett Avenue, Portland, OR 97239
503.248.1939 Main
866.727.0140 Fax
888.248.1939 Toll-Free

PBSUSA.COM

GENERAL INFORMATION

BUILDING DATA

Dufur School
802 E 5th Street
Dufur, OR 97021

CLIENT DATA

Dufur School District #29
802 NE 5th Street
Dufur, OR 97021-3034
(541) 467-2509

BACKGROUND INFORMATION

SURVEY SCOPE

PBS Engineering and Environmental Inc. (PBS) has performed a limited asbestos survey of accessible building areas in accordance with OSHA in 29 CFR 1910.1001 and compiled a report with the following information:

- The type, location, and approximate quantity of suspect asbestos-containing materials
- Bulk sampling of selected suspect building materials
- Inspection summary
- Laboratory analytical data of bulk material sampled

With regard to asbestos, PBS endeavored to locate all the suspect asbestos-containing materials in the building; however, suspect asbestos-containing materials may be present and concealed within wall, ceiling, or floor spaces. If suspect materials are uncovered during demolition activities that are not identified in this report, testing should be performed prior to impact.

PBS has conducted a physical inspection of the building, compiled this report consistent with the survey scope, and certifies that the information is correct and accurate within the standards of professional quality and contractual obligations.

James Mastanduno
Project Manager
Accreditation #: IMR-20-4993B
Signed for James Mastanduno

Imad Abouzaki
Prime Inspector
Accreditation #: IR-19-0425A

Imad Abouzaki 07/22/2020

Signature Date

Imad Abouzaki 07/22/2020

Signature Date

INSPECTION SUMMARY

DATES	SURVEYED BY	ACTIVITY
7/18/2020	Imad Abouizaki	Asbestos Survey

PBS has investigated accessible areas inside the restrooms of the buildings to locate suspect asbestos-containing building materials (ACBM). Suspect materials may be present in concealed areas (e.g., behind walls and under carpet). The findings are listed below.

ASBESTOS MATERIALS

The following materials either tested positive, or, based on the experience of PBS field personnel, were not tested and should be considered asbestos-containing. Materials that had mixed results are considered positive. Materials not sampled may contain asbestos and should be tested to verify asbestos content prior to impact through demolition, renovation, etc.
 (+) Tested Positive, (M) Mixed Results, (P) Presumed Positive, (T) Previously Tested Positive.

See sample inventory for specific results.

Results	Material Description	Location	Details
(+)	Hard Fittings/Mag Pipe	High school restrooms, inside wet walls	200 LF Friable Good
(+)	Joint Compound	On gypsum wallboard system throughout the high school and grade school restrooms	NOT QUANTIFIED Non-friable Good

MATERIALS THAT TESTED NEGATIVE FOR ASBESTOS

The following materials tested negative based on ASHARA sampling minimums and testing by NVLAP participating laboratories. Although no asbestos was detected, it is possible that further sampling could indicate asbestos content. It may be prudent to test prior to impact through demolition, renovation, etc.

Material (type)	Location
Ceramic Tile Grout	High school and grade school restrooms, walls and floors
Glued-on Ceiling Tiles	High school and grade school restrooms
Wainscot Paneling	High school and grade school restrooms, walls
Wall and Ceiling Plaster	High school utility room

INSPECTION SUMMARY

BACKGROUND

On July 7, 2020, PBS performed a limited asbestos survey in the restrooms at the high school and grade school in Dufur Oregon. The purpose of the survey was to locate, identify, and quantify accessible asbestos-containing materials that may be impacted by the upcoming planned renovation.

The survey is also intended to satisfy Occupational Safety and Health Administration (OSHA) hazard communication requirements as well as requirements by the Department of Environmental Quality (DEQ) to perform an asbestos inspection prior to renovation or demolition activities under Oregon Administrative Rule (OAR) 340-248-0270.

The investigation was limited to accessible suspect materials due to the building being occupied during the survey which limited our ability to perform destructive investigation.

ASBESTOS SUMMARY

A PBS Asbestos Hazard Emergency Response Act (AHERA) accredited inspector performed the investigation to determine the presence, location, and approximate quantity of asbestos-containing materials (ACM). Samples of building materials, suspected of containing asbestos, were collected and submitted under chain of custody to Lab/Cor Portland Inc. of Portland, Oregon, for polarized light microscopy (PLM) analysis. The following material tested positive for asbestos and should be removed accordingly prior to renovation or demolition impact.

- Asbestos-containing pipe insulation inside wet walls in the High School restrooms. This material was not accessible to sample in the Grade School restrooms and should be presumed to exist inside wet wall.
- The joint compound on the gypsum wall board system tested positive for asbestos.

All other sampled materials tested negative for asbestos. Please refer to the asbestos bulk sample inventory for more sample details.

Asbestos Regulations

Oregon DEQ, EPA, and OSHA regulations require proper removal and handling of ACM by licensed and trained asbestos abatement contractors prior to building renovations or demolition.

The EPA, DEQ, and OSHA all define ACM as any material containing more than one percent asbestos. Although materials equal to or less than one percent are not considered by regulatory agencies to be an ACM, they still have some asbestos content, and Oregon OSHA has specific requirements for situations in which workers may encounter, disturb, or remove materials containing any level of asbestos. For the sake of hazard communication, these materials are included in the asbestos-containing materials section of this report.

In 1995, Oregon OSHA adopted 29 Code of Federal Regulations (CFR) Part 1926.1101 governing asbestos under OAR 437-003-1926.1101. The regulation has made significant changes in work procedures and how asbestos materials are managed. OSHA believes that the single biggest risk of asbestos exposure is to workers who unknowingly or improperly disturb ACM. Hazard communication, training, personal protection, work practices, exposure monitoring, and recordkeeping are all major components of the regulation.

INSPECTION SUMMARY

DEQ s OAR 340, Division 248 also covers asbestos abatement requirements, removal notifications, licensing, and certifications for contractors.

For more information regarding the removal of asbestos-containing materials, please refer to the following:

1. Oregon Occupational Safety and Health Administration, OAR 437-003-1926.1101
2. Department of Environmental Quality, OAR-340, Division 248.

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.004-0001	Ceramic Tile Grout	High school boys restroom; wall tile grout		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	ceramic tile, beige		No Asbestos Detected
		Layer 02	granular compact powder, tan	No Asbestos Detected	
25842.004-0002	Hard Fittings/Mag Pipe	High school boys restroom; wet wall, pipe insulation		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	loose fibrous powder, gray	<1% Chrysotile, 7% Amosite	
25842.004-0003	Hard Fittings/Mag Pipe	High school boys restroom; wet wall, pipe insulation		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	fine fibrous powder, white	2% Chrysotile, 5% Amosite	
25842.004-0004	Paneling	High school boys restroom; wainscot paneling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	formica material, white/brown		No Asbestos Detected
		Layer 02	thick coating, orange/brown		No Asbestos Detected
		Layer 03	compressed fibers, brown		No Asbestos Detected
		Layer 04	brittle mastic, black/off-white	No Asbestos Detected	
25842.004-0005	Gypsum Wallboard	High school boys restroom; ceiling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	compact chalky material with paper, white	No Asbestos Detected	
25842.004-0006	Glued-on Ceiling Tiles	High school boys restroom; ceiling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	compressed fibers, brown		No Asbestos Detected
		Layer 02	mastic, brown	No Asbestos Detected	
25842.004-0007	Gypsum Wallboard	High school utility room; ceiling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	paint, blue with fine compact powder, off-white		2% Chrysotile
		Layer 02	compact chalky material with paper, white	No Asbestos Detected	
25842.004-0008	Wall and Ceiling Plaster	High school utility room; inside wall cavity		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	granular compact powder, gray	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.004-0009	Joint Compound	High school girls restroom; ceiling soffit		Lab Cor
		Layer: Layer 1	Description: paint, white with fine compact powder, white Analysis: No Asbestos Detected	
25842.004-0010	Ceramic Tile Grout	High school girls restroom; wall tile grout		Lab Cor
		Layer: Layer 1	Description: granular compact powder, tan Analysis: No Asbestos Detected	
25842.004-0011	Ceramic Tile Grout	Grade school girls restroom; floor tile grout		Lab Cor
		Layer: Layer 1	Description: loose granular powder, gray/tan Analysis: No Asbestos Detected	
25842.004-0012	Glued-on Ceiling Tiles	Grade school girls restroom; ceiling		Lab Cor
		Layer: Layer 01	Description: compressed fibers, brown Analysis: No Asbestos Detected	
		Layer 02	mastic, brown Analysis: No Asbestos Detected	
25842.004-0013	Paneling	Grade school girls restroom; wainscot paneling		Lab Cor
		Layer: Layer 01	Description: formica material, white/brown Analysis: No Asbestos Detected	
		Layer 02	thick coating, orange Analysis: No Asbestos Detected	
		Layer 03	compressed fibers, brown Analysis: No Asbestos Detected	
25842.004-0014	Gypsum Wallboard	Grade school utility room; floor tile grout		Lab Cor
		Layer: Layer 01	Description: paint, gray with fine compact powder, off-white Analysis: 2% Chrysotile	
		Layer 02	compact chalky material with paper, white Analysis: No Asbestos Detected	
25842.004-0015	Ceramic Tile Grout	Grade school girls restroom; floor tile grout		Lab Cor
		Layer: Layer 1	Description: granular compact powder, tan Analysis: No Asbestos Detected	
25842.004-0016	Gypsum Wallboard	Grade school girls restroom; ceiling		Lab Cor
		Layer: Layer 1	Description: compact chalky material with paper, white Analysis: No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.004-0017	Paneling	Grade school boys restroom; wainscot paneling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	coating, orange		No Asbestos Detected
		Layer 02	compressed fibers, brown	No Asbestos Detected	
25842.004-0018	Glued-on Ceiling Tiles	Grade school boys restroom; ceiling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	mastic, brown		No Asbestos Detected
		Layer 02	compressed fibers, brown	No Asbestos Detected	
25842.004-0019	Glued-on Ceiling Tiles	Grade school girls restroom; ceiling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	mastic, brown		No Asbestos Detected
		Layer 02	compressed fibers, brown	No Asbestos Detected	
25842.004-0020	Paneling	High school girls restroom; wainscot paneling		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	coating, orange		No Asbestos Detected
		Layer 02	compressed fibers, brown	No Asbestos Detected	



PLM - Visual Estimate Extended Final Report

Job Number: 202472

Client: PBS Engineering and Environmental

**Address: 4412 SW Corbett Avenue
Portland, OR 97239**

Report Number: 202472R01

Report Date: 7/9/2020

Project Name:

Project No.: 25842.004 Phase 0001

PO Number:

Sub Project:

Reference No.:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
202472 - S1	25842.004-0001 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S2	25842.004-0002 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S3	25842.004-0003 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S4	25842.004-0004 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S5	25842.004-0005 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S6	25842.004-0006 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S7	25842.004-0007 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S8	25842.004-0008 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S9	25842.004-0009 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S10	25842.004-0010 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S11	25842.004-0011 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S12	25842.004-0012 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S13	25842.004-0013 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S14	25842.004-0014 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S15	25842.004-0015 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S16	25842.004-0016 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S17	25842.004-0017 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S18	25842.004-0018 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S19	25842.004-0019 -	PLM - Visual Estimate Extended		7/7/2020
202472 - S20	25842.004-0020 -	PLM - Visual Estimate Extended		7/7/2020



PLM - Visual Estimate Extended Final Report

Job Number: 202472

Client: PBS Engineering and Environmental

Report Number: 202472R01

Report Date: 7/9/2020

Project Name:

PLM - Visual Estimate Extended The submitted sample(s) were analyzed according to the EPA 600-R-93-116 "Method for the Determination of Asbestos in Bulk Building Materials". The sample(s) were analyzed with a digital microscope in order to determine homogeneity, the presence of fibers, and make a preliminary estimate of any asbestos fibers present in the sample. The sample(s), and any observed layers, were then homogenized through techniques appropriate to that material and prepared for analysis by polarized light microscopy (PLM).

Three slide mount preparations were made from random subsamples of the homogenized material. This material was then mounted in the suitable refractive index liquid needed to perform a full optical characterization of the observed fibers. When necessary, dilute HCl, instead of RI liquids, were used to remove cementitious binders to facilitate analysis. The entirety of the slide mount preparations were then analyzed by PLM. Any observed fibers were reported and their optical characteristics recorded according to the EPA 600-R-93-116 method.

Disclaimer This report, and the data contained therein, cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. The results found in this report are based only on the submitted sample(s). LabCor has no control over sampling procedures. This report is only valid when signed by an analyst.


NAD indicates no asbestos detected. Asbestos consists of the six following minerals: chrysotile, amosite, crocidolite, anthophyllite, actinolite, and tremolite.

Additional gravimetric, point-count or TEM analysis may be recommended for samples testing at < or = 1% asbestos, or those with material binders that prevent the detection of small diameter fibers.

The following estimate of error for this method by visual estimation of asbestos percent are as follows:

- 1% asbestos: >0-3% error,
- 5% asbestos: 1-9% error,
- 10% asbestos: 5-15% error,
- 20% asbestos: 10-30% error.

Sincerely,

Digital Signature for Lab Use Only Digital Signature for Lab Use Only Digital Signature for Lab Use Only
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X


Ryan Talaski-Brown
PLM Technical Manager

BULK SAMPLE ASBESTOS ANALYSIS

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 202472R01
Report Date: 07/09/2020

Job Number: 202472

P.O. No: n/a

Project Name:

Project Number: 25842.004 Phase 0001

Project Notes:

Client Sample ID: 25842.004-0001	Sample ID: S1	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01		
ceramic tile, beige	40 % - - -	NAD
Layer 02		
granular compact powder, tan	60 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- - - - -	100 %

Client Sample ID: 25842.004-0002	Sample ID: S2	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Homogeneous		
loose fibrous powder, gray	100 % Trace 7 % -	7 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
	- - - - -	93 %

Client Sample ID: 25842.004-0003	Sample ID: S3	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Homogeneous		
fine fibrous powder, white	100 % 2 % 5 % -	7 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
	- - - - -	93 %

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 202472R01
Report Date: 07/09/2020

Job Number: 202472

P.O. No: n/a

Project Name:

Project Number: 25842.004 Phase 0001

Project Notes:

Client Sample ID: 25842.004-0004	Sample ID: S4	Date Analyzed: 07/09/2020	
Client Sample Description:		Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
		Crocidolite	Percent Asbestos:
Layer 01			
formica material, white/brown	10 %	-	-
			NAD
Layer 02			
thick coating, orange/brown	30 %	-	-
			NAD
Layer 03			
compressed fibers, brown	55 %	-	-
			NAD
Layer 04			
brittle mastic, black/off- white	5 %	-	-
			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
			Matrix
Layer 01	-	-	-
			100 %
Layer 02	-	-	-
			100 %
Layer 03	-	100 %	-
			0 %
Layer 04	-	-	-
			100 %

Client Sample ID: 25842.004-0005	Sample ID: S5	Date Analyzed: 07/09/2020	
Client Sample Description:		Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
		Crocidolite	Percent Asbestos:
Homogeneous			
compact chalky material with paper, white	100 %	-	-
			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
			Matrix
	-	2 %	-
			98 %

Client Sample ID: 25842.004-0006	Sample ID: S6	Date Analyzed: 07/09/2020	
Client Sample Description:		Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
		Crocidolite	Percent Asbestos:
Layer 01			
compressed fibers, brown	95 %	-	-
			NAD
Layer 02			
mastic, brown	5 %	-	-
			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
			Matrix
Layer 01	-	100 %	-
			0 %
Layer 02	-	-	-
			100 %

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 202472R01
Report Date: 07/09/2020

Job Number: 202472

P.O. No: n/a

Project Name:

Project Number: 25842.004 Phase 0001

Project Notes:

Client Sample ID: 25842.004-0007	Sample ID: S7	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01		
paint, blue with fine compact powder, off-white	20 % 2 % - -	2 %
Layer 02		
compact chalky material with paper, white	80 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	98 %
Layer 02	- - - - -	100 %

Client Sample ID: 25842.004-0008	Sample ID: S8	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Homogeneous		
granular compact powder, gray	100 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
	- - - - -	100 %

Client Sample ID: 25842.004-0009	Sample ID: S9	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Homogeneous		
paint, white with fine compact powder, white	100 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
	- - - - -	100 %

Client Sample ID: 25842.004-0010	Sample ID: S10	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Homogeneous		
granular compact powder, tan	100 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
	- - - - -	100 %

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 202472R01
Report Date: 07/09/2020

Job Number: 202472

P.O. No: n/a

Project Name:

Project Number: 25842.004 Phase 0001

Project Notes:

Client Sample ID: 25842.004-0011	Sample ID: S11	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Homogeneous		
loose granular powder, gray/tan	100 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix 100 %
	- - - - -	

Client Sample ID: 25842.004-0012	Sample ID: S12	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01		
compressed fibers, brown	90 % - - -	NAD
Layer 02		
mastic, brown	10 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- 100 % - - -	0 %
Layer 02	- - - - -	100 %

Client Sample ID: 25842.004-0013	Sample ID: S13	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01		
formica material, white/brown	40 % - - -	NAD
Layer 02		
thick coating, orange	10 % - - -	NAD
Layer 03		
compressed fibers, brown	50 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- - - - -	100 %
Layer 03	- 100 % - - -	0 %

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 202472R01
Report Date: 07/09/2020

Job Number: 202472

P.O. No: n/a

Project Name:

Project Number: 25842.004 Phase 0001

Project Notes:

Client Sample ID: 25842.004-0014	Sample ID: S14	Date Analyzed: 07/09/2020	
Client Sample Description:		Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
		Crocidolite	Percent Asbestos:
Layer 01			
paint, gray with fine compact powder, off-white	20 %	2 %	-
			-
Layer 02			
compact chalky material with paper, white	80 %	-	-
			-
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
Layer 01	-	-	-
Layer 02	-	-	-
			Matrix
			98 %
			100 %

Client Sample ID: 25842.004-0015	Sample ID: S15	Date Analyzed: 07/09/2020	
Client Sample Description:		Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
		Crocidolite	Percent Asbestos:
Homogeneous			
granular compact powder, tan	100 %	-	-
			-
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
	-	-	-
			Matrix
			100 %

Client Sample ID: 25842.004-0016	Sample ID: S16	Date Analyzed: 07/09/2020	
Client Sample Description:		Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
		Crocidolite	Percent Asbestos:
Homogeneous			
compact chalky material with paper, white	100 %	-	-
			-
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
	-	5 %	-
			Matrix
			95 %

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 202472R01
Report Date: 07/09/2020

Job Number: 202472

P.O. No: n/a

Project Name:

Project Number: 25842.004 Phase 0001

Project Notes:

Client Sample ID: 25842.004-0017	Sample ID: S17	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 coating, orange	25 % - - -	NAD
Layer 02 compressed fibers, brown	75 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- 100 % - - -	0 %

Client Sample ID: 25842.004-0018	Sample ID: S18	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 mastic, brown	20 % - - -	NAD
Layer 02 compressed fibers, brown	80 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- 100 % - - -	0 %

Client Sample ID: 25842.004-0019	Sample ID: S19	Date Analyzed: 07/09/2020
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 mastic, brown	90 % - - -	NAD
Layer 02 compressed fibers, brown	10 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- 100 % - - -	0 %

202472 1/2



TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25842.004 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: July 07, 2020

PBS Engineering and Environmental Inc.
4412 S Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson for Imad Abouzaki

Name: AS Johnson, Date: 2020.07.07, Time: 12:48:58 -07'00'
Authorized Signature, Date, Time

RECEIVER

Date Received: 7/7/20

Company: Lab Cor
Address: 4321 SW Corbett Ave Ste A
Portland, OR 97239
503-224-5055

Name: Karl Schultz, Date: 7/7/20, Time: 1:20 PM
Authorized Signature, Date, Time

Table with 3 columns: Sender's ID No., Brief Description, Receiver's ID No. Rows 1-14.



TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

25842.004-0015	_____	_____
25842.004-0016	_____	_____
25842.004-0017	_____	_____
25842.004-0018	_____	_____
25842.004-0019	_____	_____
25842.004-0020	_____	_____

Please analyze the enclosed 20 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: 48 Hour

SPECIAL INSTRUCTIONS:

THIS IS TO CERTIFY THAT

JAMES MASTANDUNO

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

**ASBESTOS INSPECTOR / MANAGEMENT
PLANNER REFRESHER**

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 01/10/2020

Course Location: Portland, OR

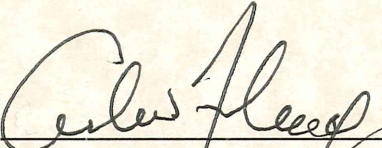
Certificate: IMR-20-4993B



AHERA is the Asbestos Hazard
Emergency Response Act enacting Title II
of Toxic Substance Control Act (TSCA)

Expiration Date: 01/10/2021

For verification of the authenticity of this
certificate contact:
PBS Environmental
4412 SW Corbett Avenue
Portland, OR 97239
(503) 248-1939



Andy Fridley, Instructor

THIS IS TO CERTIFY THAT

IMAD ABOUZAKI

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

ASBESTOS INSPECTOR REFRESHER

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 12/17/2019

Course Location: Portland, OR

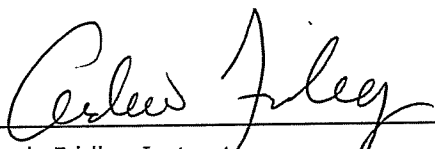
Certificate: IR-19-0425A



4-Hour AHERA Inspector Refresher
Training; AHERA is the Asbestos Hazard
Emergency Response Act enacting Title II
of Toxic Substance Control Act (TSCA)

Expiration Date: 12/17/2020

For verification of the authenticity of this
certificate contact:
PBS Environmental
4412 SW Corbett Avenue
Portland, OR 97239
(503) 248-1939


Andy Fridley, Instructor

TAB 5

Inspection Report

5.1 Overview

PBS Engineering + Environmental performed a limited inspection of Dufur School to determine the presence of asbestos-containing materials (ACM). The intent of this inspection is to ensure that the Dufur School is in compliance with the requirements of 40 CFR 763.

5.2 Summary of ACBM

All accessible areas within the limited boundaries of the scope of work were inspected as part of this investigation. Inaccessible areas are defined as those requiring selective demolition, fall protection or confined-space entry protocols to gain access.

While PBS has presumed the presence of and endeavored to identify the ACM that may be found in the concealed locations, additional unidentified ACM may exist. Concealed ACM that may exist at the school include, but are not limited to, the following:

- Pipe insulation and mechanical components in floors and wall and ceiling cavities, as well as gaskets and boiler components.
- Electrical wiring insulation and circuit breaker panels.
- Vapor barriers and mastics within wall, floor and/or ceiling cavities, under soil on the foundation, or behind brick or masonry facades.

Certain components and materials may not be identified in this report and should be investigated prior to demolition or renovation activities. Since these components and materials may exist in localized areas, they could not be reasonably investigated. Any materials encountered during renovation that have not been previously sampled should be brought to the attention of the environmental consultant. Such materials require sampling for asbestos content prior to impact. This report is not a substitute for a pre-renovation or pre-demolition asbestos survey.

Suspect materials were sampled by an AHERA-accredited Building Inspector. Samples were assigned a unique identification number and delivered to an accredited laboratory under chain-of-custody protocols.

All samples were analyzed by polarized light microscopy (PLM), which has a reliable limit of quantification of one percent asbestos by volume. Any material containing 1% or greater asbestos content is regulated as asbestos-containing in the State of Oregon. See attachments for locations and results of asbestos samples.

The attached Asbestos Bulk Sample Inventory lists all suspect materials that were sampled and analyzed for asbestos, of which, the following materials were found to contain asbestos:

Main Building Homogeneous Materials - ACBM

Material	Location	Quantity	Friable or Nonfriable (F or NF)	Notes
Pipe Insulation and Hard Fittings	Wall and Ceiling Spaces	NQ	F	Material not observed. Material is presumed to exist inside inaccessible wall and ceiling spaces.
Ceiling Texture	Classroom 113	500 SF	F	
9" x 9" Vinyl Floor Tile and Associated Black Mastic	Throughout Building	17,000 SF	NF	Material may be concealed underneath non-asbestos carpeting and other floor finishes.
Tan Vinyl Wall Tile	Around Plumbing Fixtures Throughout Building	NQ	NF	Material may be concealed underneath non-asbestos wall finishes.
Gypsum Wallboard and Joint Compound	Throughout Building	NQ	NF	Material was found to contain <1% asbestos.

SF – square feet LF – linear feet EA – each NQ – not quantified

Refer to the attached sample inventory, as well as historic survey information included in Tab 4, for a list of materials sampled and identified as non-ACBM.

Caution should be exercised during renovation/demolition as concealed ACM may exist in various locations. Any material not previously identified in this survey that a contractor or District employee encounters should be sampled to determine its asbestos content prior to impact.

EPA, DEQ, and OSHA all define ACM as any material containing more than 1% asbestos. Although materials equal to or less than 1% are not considered by regulatory agencies to be an ACM, they still have some asbestos content, and Oregon OSHA has specific requirements for situations in which workers may encounter, disturb, or remove materials containing any level of asbestos. For the sake of hazard communication, these materials are included in the asbestos-containing materials section of this report.

In 1995, Oregon OSHA adopted 29 Code of Federal Regulations (CFR) Part 1926.1101 governing asbestos under OAR 437-003-1926.1101. The regulation has made significant changes in work procedures and how asbestos materials are managed. OSHA believes that the single biggest risk of asbestos exposure is to workers who unknowingly or improperly disturb ACM. Hazard communication, training, personal protection, work practices, exposure monitoring, and recordkeeping are all major components of the regulation.

DEQ's OAR 340, Division 248 also covers asbestos abatement requirements, removal notifications, licensing, and certifications for contractors.

For more information regarding the removal of asbestos-containing materials, please refer to the following:

1. Oregon Occupational Safety and Health Administration, OAR 437-003-1926.1101
2. Department of Environmental Quality, OAR-340, Division 248

Limited Asbestos Survey Report

Dufur School

Prepared for:

Dufur School District #29

General Information	1.1
Inspection Summary	1.2
Survey Drawings	2.1
Sample Inventories	3.1
Laboratory Data	Not Numbered
Historical Sampling	Not Numbered
AHERA Certificates	Not Numbered



March 2023

Project No.: 27425.000 Phase No.: 0002 Task No.: 002

4412 S Corbett Avenue, Portland, OR 97239

503.248.1939 Main

866.727.0140 Fax

888.248.1939 Toll-Free

PBSUSA.COM

GENERAL INFORMATION

BUILDING DATA

Dufur School
802 NE 5th Street
Dufur, OR 97201

CLIENT DATA

Dufur School District #29
802 NE 5th Street
Dufur, OR 97021-3034
(541) 467-2509

BACKGROUND INFORMATION

SURVEY SCOPE

PBS Engineering and Environmental Inc. (PBS) has performed a limited asbestos survey of accessible building areas in accordance with the Occupational Safety and Health Administration (OSHA) in 29 CFR 1910.1001 and compiled a report with the following information:

- The type, location, and approximate quantity of suspect asbestos-containing materials
- Bulk sampling of selected suspect building materials
- Inspection summary
- Floor plan diagrams indicating sample locations
- Laboratory analytical data of bulk material sampled

With regard to asbestos, PBS endeavored to locate all the suspect asbestos-containing materials in the building; however, suspect asbestos-containing materials may be present and concealed within wall, ceiling, or floor spaces. If suspect materials are uncovered during demolition activities that are not identified in this report, testing should be performed prior to impact.

PBS has conducted a physical inspection of the building, compiled this report consistent with the survey scope, and certifies that the information is correct and accurate within the standards of professional quality and contractual obligations.

Sean Grabiner
Project Manager
Accreditation #: IRO-23-4508B

Taylor Cook
Prime Inspector
Accreditation #: IN-22-0497C

Signature

Date

Signature

Date

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INSPECTION SUMMARY

DATES	SURVEYED BY	ACTIVITY
12/12/2022	Taylor Cook	Survey, Sample, and Evaluate
1/9/2023	Taylor Cook	Survey, Sample, and Evaluate

PBS has investigated accessible areas inside of the building(s) to locate suspect asbestos-containing building materials (ACBMs). Suspect materials may be present in concealed areas (e.g., behind walls and under carpet). The findings are listed below.

ASBESTOS MATERIALS

The following materials either tested positive, or, based on the experience of PBS field personnel, were not tested and should be considered asbestos-containing. Materials that had mixed results are considered positive. Materials not sampled may contain asbestos and should be tested to verify asbestos content prior to impact through demolition, renovation, etc.
 (+) Tested Positive, (M) Mixed Results, (P) Presumed Positive, (T) Previously Tested Positive.

See sample inventory for specific results.

Results	Material Description	Location	Details
(+) 10%	Pipe Insulation and Associated Hard Fittings	Tunnels, concealed in walls, attics and other inaccessible locations	NOT QUANTIFIED Friable Good Response Action: Abate as necessary.
(P)	Textured Ceiling Material	Original construction; classroom 113	500 SF Friable Good Response Action: Abate as necessary.
(+) 5%	9"x9" Vinyl Floor Tile and Associated Black Mastic	Original construction; throughout surveyed areas. See drawings for specific locations.	17,000 SF Non-friable Good Response Action: Abate as necessary.
(+) 6%	Tan Vinyl Wall Tile	Original construction; around plumbing fixtures in various locations throughout surveyed area.	NOT QUANTIFIED Non-friable Good Response Action: Abate as necessary.

INSPECTION SUMMARY

(+)	<1% Gypsum Wallboard/Joint Compound	Original construction; throughout surveyed area.	NOT QUANTIFIED
			Non-friable Good Response Action: Abate as necessary.
(P)	Black 12"x12" Vinyl Floor Tile and Associated Tan Mastic	New addition; upper gymnasium lobby	100 SF
			Non-friable Good Response Action: Abate as necessary.

MATERIALS THAT TESTED NEGATIVE FOR ASBESTOS

The following materials tested negative based on ASHARA sampling minimums and testing by NVLAP participating laboratories. Although no asbestos was detected, it is possible that further sampling could indicate asbestos content. It may be prudent to test prior to impact through demolition, renovation, etc.

<u>Material (type)</u>	<u>Location</u>
Gypsum Wallboard and Associated Joint Compound	Throughout gym building, original construction remodeled areas
12" x 12" Gray Speckled Vinyl Floor Tile and Associated Tan Mastic	Multiple locations throughout surveyed areas
12" x 12" Dark Gray Speckled Vinyl Floor Tile and Associated Brown Mastic	Multiple locations throughout surveyed areas
Green Speckled Sheet Floor Covering and Associated Black Mastic	Classroom 124, on countertop
Purple Speckled Sheet Floor Covering and Associated Tan Mastic	Men and women's restrooms near main office, concessions area
4" Covebase (Various Colors) and Associated Mastics (Various Colors)	Throughout surveyed areas
2' x 4' White "Pin and Fissure" Lay-in Ceiling Tile	Throughout surveyed areas in main building and upper gym and upper classrooms
2' x 4' (Faux 2' x 2') "Pin Perf" White Lay-in Ceiling Tile	New construction areas
1' x1' White Ceiling Tile and Associated Brown Mastic	Multiple locations throughout surveyed areas
Yellow Fiberglass Pipe Insulation	North stage upper mechanical loft

INSPECTION SUMMARY

BACKGROUND

Between December 13, 2022, and January 9, 2023, PBS Engineering and Environmental Inc. (PBS) performed a limited asbestos survey of Dufur School, located at 802 NE 5th Street in Dufur, Oregon. The survey was requested by the Dufur School District to be used in the creation of new Asbestos Hazard Emergency Management Act (AHERA) management plans.

The purpose of the survey was to locate, identify, and quantify accessible friable and non-friable asbestos-containing building materials inside of the building for AHERA management.

The survey is also intended to satisfy Occupational Safety and Health Administration (OSHA) hazard communication requirements as well as requirements by the Department of Environmental Quality (DEQ) to perform an asbestos inspection prior to renovation or demolition activities under Oregon Administrative Rule (OAR) 340-248-0270.

ASBESTOS SUMMARY

The school was inspected by a PBS Asbestos Hazard Emergency Response Act (AHERA) accredited inspector to determine the presence, location, and approximate quantity of asbestos-containing materials (ACMs). Fifty-six bulk samples of building materials, suspected of containing asbestos, were collected and submitted under chain of custody to Lab/Cor Portland Inc. of Portland, Oregon, for polarized light microscopy (PLM) analysis. Applicable known asbestos-containing materials from a PBS-performed 2019 survey are included in the asbestos summary. Lab results from the previous survey are also attached for reference. The following materials were found to contain asbestos:

Original Construction – Main School Building

- Asbestos-containing pipe insulation and associated hard fittings exist in the tunnels and presumed to exist in inaccessible wall and ceiling cavities throughout the school. The material was previously noted in the stage mechanical lofts and the boiler room but was abated in 2019.
- Presumed asbestos-containing textured ceiling material exists in classroom 113.
- Asbestos-containing 9"x9" vinyl floor tile and associated black mastic exists throughout the main building in hallways, classrooms, and storage areas. In some areas this material may be concealed beneath non-asbestos carpet and other floor finishes.
- Asbestos-containing tan vinyl wall tile was identified during the 2019 survey. The material is presumed to exist around plumbing fixtures in various locations throughout the school but may be concealed by other finishes.
- Asbestos-containing joint compound associated with gypsum wall assemblies was identified during the 2019 survey. Gravimetric reduction followed by point count analysis was performed on the material, which identifies the gypsum wall systems as containing less than 1%t (<1%) asbestos. Less than 1% asbestos materials are not regulated under AHERA. However, this material is included in the asbestos-containing materials section of this report for the sake of hazard communication.

New Addition – Upper Classrooms, Upper Gym, and Cafeteria

- Presumed asbestos-containing black 12"x12" vinyl floor tile and associated tan mastic exists in the upper gym

At the time of this survey, all asbestos-containing building materials were observed to be in good condition. However, at the time of PBS' visits, tunnels under the school were flooded with standing water. Because of this, most of the tunnels could not be investigated and it is possible water damage to pipes could exist throughout these areas. No suspect pipe insulation or hard fittings were observed in the new addition but asbestos containing pipe insulation and hard fittings may exist in inaccessible wall and ceiling spaces throughout the original construction area and the new addition.

Ceiling texture and pipe insulation should be considered friable if disturbed. All other ACM were non-friable at the time of this survey.

Please refer to the asbestos bulk sample inventory for more sample details.

Asbestos Regulations

DEQ, EPA, and OSHA regulations require proper removal and handling of ACM by licensed and trained asbestos abatement contractors prior to building renovations or demolition.

The Environmental Protection Agency (EPA), DEQ, and OSHA all define ACM as any material containing more than one percent asbestos. Although materials equal to or less than one percent asbestos are not considered by regulatory agencies to be ACM, they still have some asbestos content, and Oregon OSHA has specific requirements for situations in which workers may encounter, disturb, or remove materials containing any level of asbestos. For the sake of hazard communication, these materials are included in the asbestos-containing materials section of this report.

In 1995, Oregon OSHA adopted 29 Code of Federal Regulations (CFR) Part 1926.1101 governing asbestos under OAR 437-003-1926.1101. The regulation has made significant changes in work procedures and how asbestos materials are managed. OSHA believes that the single biggest risk of asbestos exposure is to workers who unknowingly or improperly disturb ACM. Hazard communication, training, personal protection, work practices, exposure monitoring, and recordkeeping are all major components of the regulation.

DEQ's OAR 340, Division 248 also covers asbestos abatement requirements, removal notifications, licensing, and certifications for contractors.

For more information regarding the removal of asbestos-containing materials, please refer to the following:

1. Oregon Occupational Safety and Health Administration, OAR 437-003-1926.1101
2. Department of Environmental Quality, OAR-340, Division 248

GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS.
2. ACCESSIBLE AREAS WERE INSPECTED FOR SUSPECT ASBESTOS-CONTAINING MATERIALS. WHEN OBSERVED, REPRESENTATIVE SAMPLES OF HOMOGENOUS MATERIALS WERE TAKEN. ONLY POSITIVE OR PRESUMED POSITIVE MATERIALS ARE SHOWN. REFERENCE THE BULK SAMPLE AND MATERIAL INVENTORIES FOR ADDITIONAL INFORMATION.

SURVEY NOTES

1. ASBESTOS FLOORING APPLICATIONS SHOULD BE ASSUMED TO BE PRESENT UNDER CASEWORK IN AREAS WHERE THE MATERIAL IS PRESENT.
2. ASBESTOS-CONTAINING PIPE INSULATION WAS PREVIOUSLY IDENTIFIED WITHIN THE TUNNELS. AT THE TIME OF PBS' 2023 INSPECTION, THE TUNNELS WERE INACCESSIBLE DUE TO FLOODING. IT IS PRESUMED THAT THE MATERIAL REMAINS, THOUGH CONDITION, EXTENT, AND QUANTITY OF THE MATERIAL ARE UNKNOWN. ASBESTOS PIPE INSULATION IS ALSO LIKELY PRESENT WITHIN INACCESSIBLE WALL AND CEILING SPACES.
3. JOINT COMPOUND ASSOCIATED WITH GYPSUM WALLBOARD ON ORIGINAL CONSTRUCTION GYPSUM WALLBOARD WALLS WAS FOUND TO CONTAIN LESS THAN ONE PERCENT ASBESTOS.
4. ASBESTOS-CONTAINING TAN VINYL WALL TILE WAS IDENTIFIED DURING THE 2019 SURVEY. THE MATERIAL IS PRESUMED TO EXIST AROUND PLUMBING FIXTURES IN VARIOUS LOCATIONS THROUGHOUT THE SCHOOL, BUT MAY BE CONCEALED BY OTHER FINISHES.

KEY NOTES

1. LOCATION OF PLUMBING AND/OR HEATING FIXTURES PRESUMED TO BE ASSOCIATED WITH ASBESTOS PIPE INSULATION AND/OR HARD FITTINGS.
2. TUNNEL ENTRANCE WITH ASBESTOS-CONTAINING PIPE INSULATION LEADING TO THE REST OF THE BUILDING.
3. THESE AREAS APPEAR TO HAVE BEEN RECENTLY RENOVATED. IF MATERIALS THAT ARE NOT IDENTIFIED IN THIS SURVEY REPORT ARE ENCOUNTERED IN THESE AREAS, THEY SHOULD BE PRESUMED TO BE ASBESTOS CONTAINING UNTIL ADDITIONAL SAMPLING CAN BE PERFORMED.

LEGEND

- ASBESTOS-CONTAINING FLOOR TILE AND MASTIC ON CONCRETE
- PRESUMED ASBESTOS-CONTAINING SPRAY ON CEILING TEXTURE

ASBESTOS SAMPLE SYMBOLS

- 007 — DRAWING REFERENCE TO BULK SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES
- MATERIAL SYMBOL
- NOT TESTED:
 - NEGATIVE:
 - POSITIVE:
 - THERMAL SYSTEM INSULATION
 - SURFACING MATERIAL
 - ◆ MISCELLANEOUS MATERIAL

INVENTORY OF ASBESTOS SAMPLES

DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
001	27425.000-0001	(-/-)	GLUED-ON CEILING TILES
002	27425.000-0002	(-)	LAY-IN CEILING TILE (01)
003	27425.000-0003	(-/-)	LAY-IN CEILING TILE (01)
004	27425.000-0004	(-/-)	LAY-IN CEILING TILE (01)
005	27425.000-0005	(-/-)	GYPSUM WALLBOARD/ JOINT COMPOUND (01)
006	27425.000-0006	(<1%/<1%/-)	GYPSUM WALLBOARD/ JOINT COMPOUND (01)
007	27425.000-0007	(+)	MAG PIPE INSULATION
008	27425.000-0008	(+/-)	PIPE INSULATION (01)
009	27425.000-0009	(-)	WHITE WRAP INSULATION
010	27425.000-0010	NT	VINYL FLOOR TILE/MASTIC (01)
011	27425.000-0011	(-/-)	VINYL FLOOR TILE/MASTIC (01)
012	27425.000-0012	(-/-)	VINYL FLOOR TILE/MASTIC (01)
013	27425.000-0013	(+/-)	VINYL FLOOR TILE/MASTIC (02)
014	27425.000-0014	NT	VINYL FLOOR TILE/MASTIC (02)
015	27425.000-0015	NT	VINYL FLOOR TILE/MASTIC (02)
016	27425.000-0016	(-/-)	VINYL FLOOR TILE/MASTIC (03)
017	27425.000-0017	(-/-)	VINYL FLOOR TILE/MASTIC (03)

INVENTORY OF ASBESTOS SAMPLES (CONTINUED)

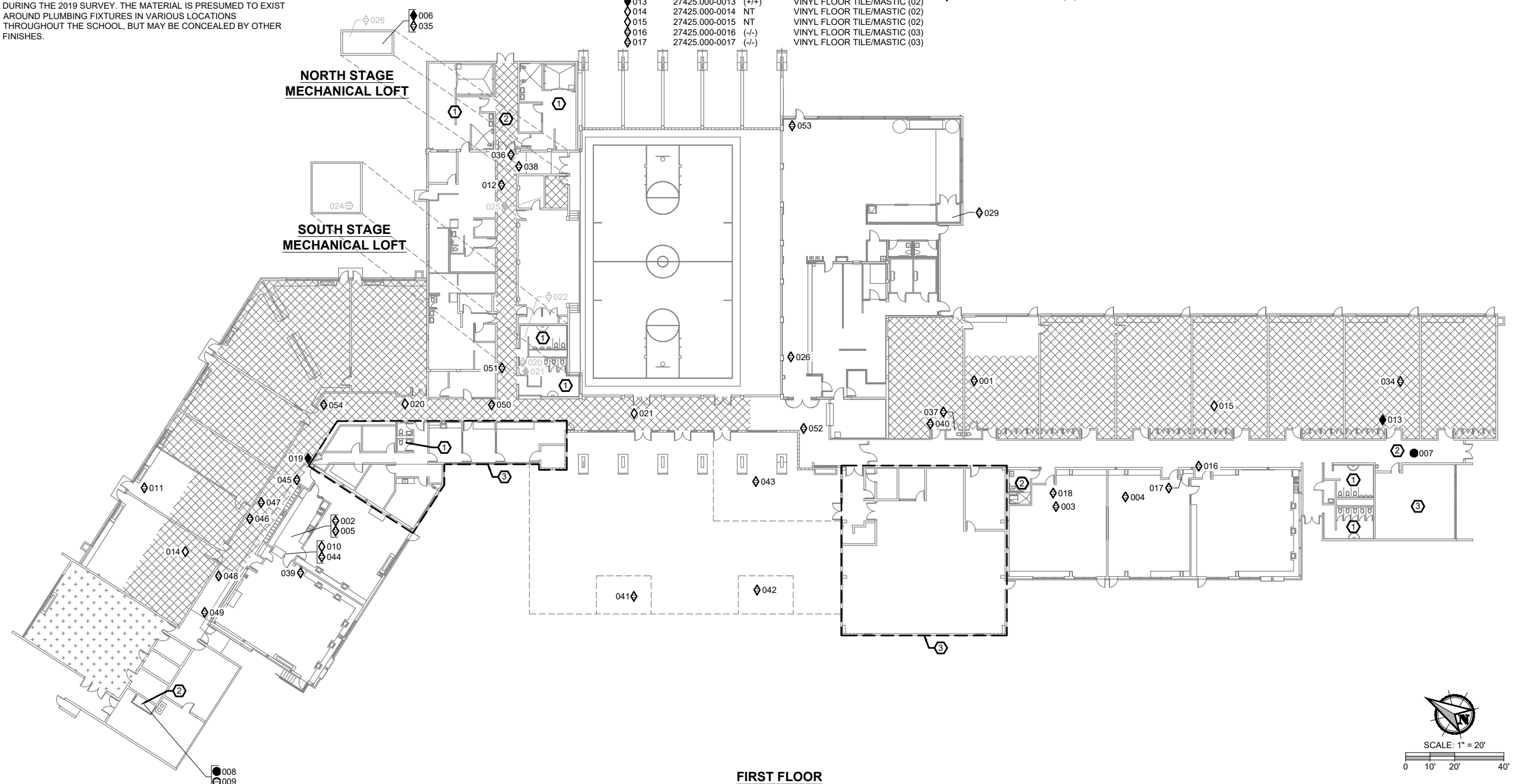
DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
018	27425.000-0018	(-/-)	VINYL FLOOR TILE/MASTIC (03)
019	27425.000-0019	(<1%/+/-)	VINYL FLOOR TILE/MASTIC (04)
020	27425.000-0020	NT	VINYL FLOOR TILE/MASTIC (04)
021	27425.000-0021	NT	VINYL FLOOR TILE/MASTIC (04)
026	27425.000-0026	(-/-)	LAY-IN CEILING TILE (03)
029	27425.000-0029	(-/-)	GYPSUM WALLBOARD/ JOINT COMPOUND (02)
034	27425.000-0034	(-/-)	SHEET FLOOR COVERING (01)
035	27425.000-0035	(-/-)	INSULATION (03)
036	27425.000-0036	(-/-)	COVEBASE/MASTIC (01)
037	27425.000-0037	(-/-)	COVEBASE/MASTIC (02)
038	27425.000-0038	(-/-)	COVEBASE/MASTIC (03)
039	27425.000-0039	(-/-)	COVEBASE/MASTIC (04)
040	27425.000-0040	(-)	COVEBASE/MASTIC (05)
041	27425.000-0041	(-/-)	SHEET FLOOR COVERING (02)
042	27425.000-0042	(-/-)	SHEET FLOOR COVERING (02)
043	27425.000-0043	(-/-)	SHEET FLOOR COVERING (02)
044	27425.000-0044	(-)	VINYL FLOOR TILE/MASTIC (01)
045	27425.000-0045	(-/-)	COVEBASE/MASTIC (01)
046	27425.000-0046	(-/-)	COVEBASE/MASTIC (03)
047	27425.000-0047	(-/-)	COVEBASE/MASTIC (06)
048	27425.000-0048	(-/-)	COVEBASE/MASTIC (06)
049	27425.000-0049	(-/-)	COVEBASE/MASTIC (04)
050	27425.000-0050	(-/-)	COVEBASE/MASTIC (04)
051	27425.000-0051	(-/-)	COVEBASE/MASTIC (03)
052	27425.000-0052	(-/-)	COVEBASE/MASTIC (01)
053	27425.000-0053	(-/-)	COVEBASE/MASTIC (07)
054	27425.000-0054	(-/-)	COVEBASE/MASTIC (06)

INVENTORY OF ASBESTOS HISTORICAL SAMPLES (APRIL 2019)

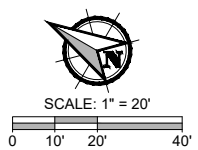
DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
020	25842.000-0020	(-/-)	CERAMIC TILE/GROUT (02)
021	25842.000-0021	(+/-)	GYPSUM WALLBOARD/ JOINT COMPOUND (03)
022	25842.000-0022	(-/-)	GLUED-ON CEILING TILES (01)
025	25842.000-0025	(+/-)	VINYL FLOOR TILE (04)

NORTH STAGE MECHANICAL LOFT

SOUTH STAGE MECHANICAL LOFT



FIRST FLOOR



PREPARED FOR: DUFUR SCHOOL DISTRICT #29

LIMITED ASBESTOS SURVEY PLAN
DUFUR SCHOOL
 802 NE 5TH STREET, DUFUR, OREGON

NO	REVISION	DATE	BY	APPD

DRAWN BY JAB
CHECKED: SG
DATE: MARCH 2023
PROJECT NUMBER: 27425.000
SHEET DRAWING NO: HS1
SHEET 1 OF 2

PBS Engineering and Environmental Inc.
 Portland, OR 97239
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File name: L:\Projects\2700027400-27499\27425_DufurSD_VerdantPhase0002 3-year re-inspections\Dufur_School\DWG\SURVEY\27425.000_0002_HS1.dwg
 User: Jim Blanco
 Layout Tab: 11X17
 CAD Plot Date/Time: 3/7/2023 12:47:37 PM

FULL SIZE SHEET FORMAT IS 24X36. IF PRINTED SIZE IS NOT 24X36, THEN THIS SHEET FORMAT HAS BEEN MODIFIED & INDICATED DRAWING SCALE IS NOT ACCURATE.

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0001	Glued-on Ceiling Tiles	Classroom 116 ceiling; 12"x12" white pinhole glued on ceiling tile with brittle brown glue dot		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	coating, white	No Asbestos Detected
		Layer 02	compressed fibers, off-white	No Asbestos Detected
		Layer 03	mastic, brown	No Asbestos Detected
27425.000-0002	Lay-in Ceiling Tile (01)	Storage room in math room; 2'x4' white lay-in ceiling tile with linear fissures and random pinhole pattern		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	compressed fibers, gray	No Asbestos Detected
27425.000-0003	Lay-in Ceiling Tile (01)	Classroom 117; 2'x4' white lay-in ceiling tile with linear fissures and random pinhole pattern		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	coating, white	No Asbestos Detected
		Layer 02	compressed fibers, gray	No Asbestos Detected
27425.000-0004	Lay-in Ceiling Tile (01)	Classroom 120; 2'x4' white lay-in ceiling tile with linear fissures and random pinhole pattern		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	coating, white	No Asbestos Detected
		Layer 02	compressed fibers, gray	No Asbestos Detected
27425.000-0005	Gypsum Wallboard/Joint Compound (01)	Storage room in math room, above lay-in ceiling tile; gypsum wallboard and joint compound on wall		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	fine compact powder, white on paper	No Asbestos Detected
		Layer 02	hard compact powder, white with paper	No Asbestos Detected
		Layer 03	loose chalky material with paper, pink	No Asbestos Detected
27425.000-0006	Gypsum Wallboard/Joint Compound (01)	Ceiling in north mechanical loft; gypsum wallboard and joint compound on ceiling		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	hard compact powder, off-white with paint, gray	< 1% Chrysotile
		Layer 02	hard compact powder, off-white with paper	< 1% Chrysotile
		Layer 03	loose chalky material with paper, white	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0007	Mag Pipe Insulation	Tunnels on south end of school; mag pipe insulation with textured wrap		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	fibrous powder, off-white/white	2% Chrysotile, 8% Amosite	
27425.000-0008	Pipe Insulation (01)	Tunnel entrance in old boiler room, north end of school; layered corrugated pipe insulation with black fabric wrap		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	fibrous material, brown with coating, tan	10% Chrysotile	
	Layer 02	woven fibers, tan with tar material, black	No Asbestos Detected	
27425.000-0009	White Wrap Insulation	Tunnel entrance in old boiler room, north end of school; heavy woven white wrap on end of insulated pipes		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	woven fibers, white with powder, white	No Asbestos Detected	
27425.000-0010	Vinyl Floor Tile/Mastic (01)	Storage closet in math room; 12"x12" gray speckled floor tiles with tan mastic on concrete		Lab Cor
	Layer:	Description:	Analysis:	
27425.000-0011	Vinyl Floor Tile/Mastic (01)	North end of classroom 110; 12"x12" gray speckled floor tiles with tan mastic on concrete		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	hard vinyl, gray	No Asbestos Detected	
	Layer 02	thin mastic, brown	No Asbestos Detected	
27425.000-0012	Vinyl Floor Tile/Mastic (01)	Center hall near gym entrance; 12"x12" gray speckled floor tiles with tan mastic on concrete		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	hard vinyl, gray with thin mastic, brown/gray	No Asbestos Detected	
	Layer 02	granular compact powder, gray/black	No Asbestos Detected	
	Layer 03	hard compact powder, gray with thin mastic, brown	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0013	Vinyl Floor Tile/Mastic (02)	Classroom 124, under cabinet; 9"x9" brown floor tile with streaks, with black mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	loose vinyl material, tan	2% Chrysotile
		Layer 02	thin mastic, black	2% Chrysotile
27425.000-0014	Vinyl Floor Tile/Mastic (02)	Classroom 112; 9"x9" brown floor tile with streaks, with black mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
27425.000-0015	Vinyl Floor Tile/Mastic (02)	Classroom 122; 9"x9" brown floor tile with streaks, with black mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
27425.000-0016	Vinyl Floor Tile/Mastic (03)	Entrance to classroom 121; 12"x12" dark gray speckled floor tile with brown mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	hard vinyl, gray	No Asbestos Detected
		Layer 02	loose mastic, brown	No Asbestos Detected
27425.000-0017	Vinyl Floor Tile/Mastic (03)	Closet in classroom 120; 12"x12" dark gray speckled floor tile with brown mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	hard vinyl, gray	No Asbestos Detected
		Layer 02	loose particulate, gray with thin mastic, brown	No Asbestos Detected
27425.000-0018	Vinyl Floor Tile/Mastic (03)	Entrance to classroom 117; 12"x12" dark gray speckled floor tile with brown mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	hard vinyl, gray	No Asbestos Detected
		Layer 02	mastic, brown	No Asbestos Detected
27425.000-0019	Vinyl Floor Tile/Mastic (04)	Northwest hall by math room; 9"x9" pink floor tile with multicolor streaks, with black mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	thin coating, clear with loose particulate, gray/black	< 1% Chrysotile
		Layer 02	hard vinyl, orange	2% Chrysotile
		Layer 03	mastic, black	2% Chrysotile

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0020	Vinyl Floor Tile/Mastic (04)	Hall outside of room 104; 9"x9" pink floor tile with multicolor streaks, with black mastic on concrete		Lab Cor
	Layer:	Description:	Analysis:	
27425.000-0021	Vinyl Floor Tile/Mastic (04)	Hall outside of gym; 9"x9" pink floor tile with multicolor streaks, with black mastic on concrete		Lab Cor
	Layer:	Description:	Analysis:	
27425.000-0022	Lay-in Ceiling Tile (02)	Upper gym, near entry to gym from bathrooms; 2'x4' lay-in ceiling tile with linear fissures and random pinhole		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	coating, white	No Asbestos Detected	
	Layer 02	compressed fibrous material, tan/gray	No Asbestos Detected	
27425.000-0023	Lay-in Ceiling Tile (02)	Upper gym, near janitorial closet; 2'x4' lay-in ceiling tile with linear fissures and random pinhole		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	coating, white	No Asbestos Detected	
	Layer 02	compressed fibrous material, tan/gray	No Asbestos Detected	
27425.000-0024	Lay-in Ceiling Tile (02)	Upper gym, near ladies restroom; 2'x4' lay-in ceiling tile with linear fissures and random pinhole		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	coating, white	No Asbestos Detected	
	Layer 02	compressed fibrous material, tan/gray	No Asbestos Detected	
27425.000-0025	Lay-in Ceiling Tile (03)	Upper classrooms, hub closet; faux 2'x4' lay-in ceiling tile with random pinhole		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	coating, white/off-white	No Asbestos Detected	
	Layer 02	compressed fibrous material, tan/gray	No Asbestos Detected	
27425.000-0026	Lay-in Ceiling Tile (03)	Entryway to lunch room; faux 2'x4' lay-in ceiling tile with random pinhole		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 01	coating, white	No Asbestos Detected	
	Layer 02	compressed fibrous material, tan/gray	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0027	Lay-in Ceiling Tile (03)	Upper gym, between restrooms; faux 2'x4' lay-in ceiling tile with random pinhole		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	coating, white	No Asbestos Detected
	Layer 02	compressed fibrous material, tan/gray	No Asbestos Detected	
27425.000-0028	Gypsum Wallboard/Joint Compound (02)	Upper gym, janitors closet; white gypsum and joint compound on wall		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	fine compact powder with paint, white	No Asbestos Detected
	Layer 02	compact chalky material with paper, white	No Asbestos Detected	
27425.000-0029	Gypsum Wallboard/Joint Compound (02)	North closet in lunch room; white gypsum and joint compound on wall		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	fine compact powder, off-white, with paint, tan	No Asbestos Detected
	Layer 02	compact chalky material with paper, white	No Asbestos Detected	
27425.000-0030	Gypsum Wallboard/Joint Compound (02)	Upper classrooms, janitorial closet; white gypsum and joint compound on wall		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	fine compact powder, white, with paint, tan/green	No Asbestos Detected
	Layer 02	compact chalky material with paper, white	No Asbestos Detected	
27425.000-0031	Vinyl Floor Tile/Mastic (05)	Upper gym, near weight room; 12"x12" gray speckled floor tile with tan mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery mastic, clear yellow	No Asbestos Detected
	Layer 02	hard vinyl, gray	No Asbestos Detected	
	Layer 03	mastic, clear orange	No Asbestos Detected	
27425.000-0032	Vinyl Floor Tile/Mastic (05)	Upper gym, in front of girls restroom; 12"x12" gray speckled floor tile with tan mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	hard compact powder, gray	No Asbestos Detected
	Layer 02	hard vinyl, gray	No Asbestos Detected	
	Layer 03	thin mastic, clear yellow	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0033	Vinyl Floor Tile/Mastic (05)	Upper gym, in front of boys restroom; 12"x12" gray speckled floor tile with tan mastic on concrete		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	fibrous particulate, gray	No Asbestos Detected
		Layer 02	hard vinyl, gray	No Asbestos Detected
		Layer 03	thin mastic, clear yellow	No Asbestos Detected
27425.000-0034	Sheet Floor Covering (01)	On wooden counter of classroom 124; green speckled sheet vinyl with black mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	vinyl, green/black	No Asbestos Detected
		Layer 02	mastic, dark yellow	No Asbestos Detected
		Layer 03	fibrous material, black	No Asbestos Detected
27425.000-0035	Insulation (03)	North stage upper mechanical loft; yellow fiberglass insulation directly on metal pipe with white foil faced wrap		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	foil with fibrous backing, white	No Asbestos Detected
		Layer 02	loose fibrous material, yellow	No Asbestos Detected
27425.000-0036	Covebase/Mastic (01)	Center hall near exit at east end; 4" dark gray covebase with tan mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, off-white/tan	No Asbestos Detected
27425.000-0037	Covebase/Mastic (02)	Bathroom of classroom 115; 4" dark brown covebase with tan sticky mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, brown	No Asbestos Detected
		Layer 02	mastic with particulate, clear/yellow	No Asbestos Detected
27425.000-0038	Covebase/Mastic (03)	Center hall near north gym entrance; 4" light gray covebase with tan mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, off-white	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
27425.000-0039	Covebase/Mastic (04)	Classroom 111; 4" dark gray covebase with white mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	rubbery material, gray		No Asbestos Detected
		Layer 02	mastic, white with paper backing, brown	No Asbestos Detected	
27425.000-0040	Covebase/Mastic (05)	Classroom 115 near entrance; 4" old light gray brittle covebase with residual tan mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	hard rubbery material, gray		No Asbestos Detected
27425.000-0041	Sheet Floor Covering (02)	Bathroom in front office, women's; purple speckled sheet floor with tan mastic on concrete		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	flexible vinyl, brown		No Asbestos Detected
		Layer 02	fibrous backing, off-white		No Asbestos Detected
		Layer 03	thin mastic, tan with loose granular particulate, gray	No Asbestos Detected	
27425.000-0042	Sheet Floor Covering (02)	Bathroom in front office, men's; purple speckled sheet floor with tan mastic on concrete		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	vinyl material, brown		No Asbestos Detected
		Layer 02	fibrous backing, off-white		No Asbestos Detected
		Layer 03	loose granular particulate, gray	No Asbestos Detected	
27425.000-0043	Sheet Floor Covering (02)	Concessions, front office; purple speckled sheet floor with tan mastic on concrete		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 01	vinyl material, brown		No Asbestos Detected
		Layer 02	fibrous backing, off-white		No Asbestos Detected
		Layer 03	mastic, brown with loose particulate, brown	No Asbestos Detected	
27425.000-0044	Vinyl Floor Tile/Mastic (01)	Closet in math room; 12x12 light grey floor tile with tan mastic on concrete		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	hard vinyl, gray with thin mastic, brown		No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0045	Covebase/Mastic (01)	Outside math room; 4" dark gray covebase with tan sticky mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, tan	No Asbestos Detected
27425.000-0046	Covebase/Mastic (03)	Outside IT room 109; 4" light gray covebase with tan mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, tan	No Asbestos Detected
27425.000-0047	Covebase/Mastic (06)	Outside IT room 109; 4" dark gray with brown plastic layer over top, and brown brittle mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, brown/gray	No Asbestos Detected
		Layer 02	loose mastic, brown	No Asbestos Detected
27425.000-0048	Covebase/Mastic (06)	Outside room 112; 4" dark gray with brown plastic layer over top, and brown brittle mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, black/gray	No Asbestos Detected
		Layer 02	mastic, brown	No Asbestos Detected
27425.000-0049	Covebase/Mastic (04)	Outside janitors room; 4" dark gray covebase with white mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	compressed fibers, gray with paint, off-white	No Asbestos Detected
27425.000-0050	Covebase/Mastic (04)	Outside main office across from girls restroom; 4" dark gray covebase with white mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, tan/gray with thin paint, off-white	No Asbestos Detected
27425.000-0051	Covebase/Mastic (03)	Center hall near stairs; 4" light gray covebase with tan mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, tan	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
27425.000-0052	Covebase/Mastic (01)	Corner of hall across from lunchroom entrance; 4" dark gray covebase with tan mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, white	No Asbestos Detected
27425.000-0053	Covebase/Mastic (07)	Lunchroom, near exit; 4" black / dark gray covebase with tan and white mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, white	No Asbestos Detected
27425.000-0054	Covebase/Mastic (06)	Outside classroom 106; 4" dark gray with brown plastic layer over top, and brown brittle mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic, brown	No Asbestos Detected
27425.000-0055	Covebase/Mastic (07)	Upper classrooms, outside 301; black / dark gray covebase with tan and white mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic with powder, white	No Asbestos Detected
27425.000-0056	Covebase/Mastic (07)	Upper classrooms, outside 304; black / dark gray covebase with tan and white mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 01	rubbery material, gray	No Asbestos Detected
		Layer 02	mastic with powder, white	No Asbestos Detected



PLM - Visual Estimate Extended Final Report

Job Number: 230100

Client: PBS Engineering and Environmental

**Address: 4412 S Corbett Avenue
Portland, OR 97239**

Report Number: 230100R02

Report Date: 2/9/2023

Project Name:

Project No.: 27425.000 Phase 0002 Task 002

PO Number:

Sub Project:

Reference No.:

Report Note: R02 issued with customer requested corrections to project information.

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
230100 - S1	27425.000-0041 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S2	27425.000-0042 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S3	27425.000-0043 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S4	27425.000-0044 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S5	27425.000-0045 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S6	27425.000-0046 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S7	27425.000-0047 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S8	27425.000-0048 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S9	27425.000-0049 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S10	27425.000-0050 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S11	27425.000-0051 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S12	27425.000-0052 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S13	27425.000-0053 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S14	27425.000-0054 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S15	27425.000-0055 -	PLM - Visual Estimate Extended		1/10/2023
230100 - S16	27425.000-0056 -	PLM - Visual Estimate Extended		1/10/2023



PLM - Visual Estimate Extended Final Report

Job Number: 230100

Client: PBS Engineering and Environmental

Report Number: 230100R02

Report Date: 2/9/2023

Project Name:

PLM - Visual Estimate Extended The submitted sample(s) were analyzed according to the EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials and EPA - 40CFR App. E to Subpart E of Part 763. The sample(s) were analyzed with a digital microscope in order to determine homogeneity, the presence of fibers, and make a preliminary estimate of any asbestos fibers present in the sample. The sample(s), and any observed layers, were then homogenized through techniques appropriate to that material and prepared for analysis by polarized light microscopy (PLM).

Three slide mount preparations were made from random subsamples of the homogenized material. This material was then mounted in the suitable refractive index liquid needed to perform a full optical characterization of the observed fibers. When necessary, dilute HCl, instead of RI liquids, were used to remove cementitious binders to facilitate analysis. The entirety of the slide mount preparations were then analyzed by PLM. Any observed fibers were reported and their optical characteristics recorded according to the EPA 600-R-93-116 method.

Disclaimer This report, and the data contained therein, cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. The results found in this report are based only on the submitted sample(s). LabCor has no control over sampling procedures. This report is only valid when signed by an analyst.

NAD is No Asbestos Detected. Asbestos consists of the six following minerals: chrysotile, amosite, crocidolite, anthophyllite, actinolite, and tremolite.

Additional gravimetric, point-count or TEM analysis may be recommended for samples testing at < or = 1% asbestos, or those with material binders that prevent the detection of small diameter fibers.

The following estimate of error for this method by visual estimation of asbestos percent are as follows:

- 1% asbestos: >0-3% error,
- 5% asbestos: 1-9% error,
- 10% asbestos: 5-15% error,
- 20% asbestos: 10-30% error.

Sincerely,

Muhammad Rauch
PLM Analyst

BULK SAMPLE ASBESTOS ANALYSIS

Client: PBS Engineering and Environmental
4412 S Corbett Avenue
Portland, OR 97239

Report Number: 230100R02
Report Date: 02/09/2023

Job Number: 230100

P.O. No: n/a

Project Name:

Project Number: 27425.000 Phase 0002 Task 002

Project Notes:

Client Sample ID: 27425.000-0041

Sample ID: S1

Date Analyzed: 01/16/2023

Client Sample Description:

Analyst: Muhammad Rauch

<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite			Percent Asbestos:
Layer 01							
flexible vinyl, brown	35 %	-	-	-			NAD
Layer 02							
fibrous backing, off-white	35 %	-	-	-			NAD
Layer 03							
thin mastic, tan with loose granular particulate, gray	30 %	-	-	-			NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix
Layer 01	-	Trace	-	-	-	-	100 %
Layer 02	10 %	-	-	30 %	-	-	60 %
Layer 03	-	-	-	5 %	-	-	95 %

Client Sample ID: 27425.000-0042

Sample ID: S2

Date Analyzed: 01/16/2023

Client Sample Description:

Analyst: Muhammad Rauch

<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite			Percent Asbestos:
Layer 01							
vinyl material, brown	50 %	-	-	-			NAD
Layer 02							
fibrous backing, off-white	35 %	-	-	-			NAD
Layer 03							
loose granular particulate, gray	15 %	-	-	-			NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix
Layer 01	-	-	-	-	-	-	100 %
Layer 02	-	-	-	80 %	-	-	20 %
Layer 03	-	-	-	2 %	-	-	98 %

Client: PBS Engineering and Environmental
4412 S Corbett Avenue
Portland, OR 97239

Report Number: 230100R02
Report Date: 02/09/2023

Job Number: 230100

P.O. No: n/a

Project Name:

Project Number: 27425.000 Phase 0002 Task 002

Project Notes:

Client Sample ID: 27425.000-0043	Sample ID: S3	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 vinyl material, brown	50 % - - -	NAD
Layer 02 fibrous backing, off-white	45 % - - -	NAD
Layer 03 mastic, brown with loose particulate, brown	5 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- - - 45 % - -	55 %
Layer 03	- Trace - 2 % - -	98 %

Client Sample ID: 27425.000-0044	Sample ID: S4	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Homogeneous hard vinyl, gray with thin mastic, brown	100 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
	Trace Trace - - Animal hair Trace	100 %

Client Sample ID: 27425.000-0045	Sample ID: S5	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, gray	50 % - - -	NAD
Layer 02 mastic, tan	50 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- Trace - - -	100 %
Layer 02	- Trace - Trace - -	100 %

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 S Corbett Avenue
Portland, OR 97239

Report Number: 230100R02
Report Date: 02/09/2023

Job Number: 230100

P.O. No: n/a

Project Name:

Project Number: 27425.000 Phase 0002 Task 002

Project Notes:

Client Sample ID: 27425.000-0046	Sample ID: S6	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, gray	75 % - - -	NAD
Layer 02 mastic, tan	25 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- Trace - - -	100 %

Client Sample ID: 27425.000-0047	Sample ID: S7	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, brown/gray	98 % - - -	NAD
Layer 02 loose mastic, brown	2 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- Trace - - -	100 %
Layer 02	- - - Wollastonite Trace	100 %

Client Sample ID: 27425.000-0048	Sample ID: S8	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, black/gray	95 % - - -	NAD
Layer 02 mastic, brown	5 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- Trace - Trace -	100 %
Layer 02	Trace Trace - - -	100 %

Client: PBS Engineering and Environmental
4412 S Corbett Avenue
Portland, OR 97239

Report Number: 230100R02
Report Date: 02/09/2023

Job Number: 230100

P.O. No: n/a

Project Name:

Project Number: 27425.000 Phase 0002 Task 002

Project Notes:

Client Sample ID: 27425.000-0049	Sample ID: S9	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, gray	60 % - - -	NAD
Layer 02 compressed fibers, gray with paint, off-white	40 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- Trace - Trace - -	100 %
Layer 02	- 40 % - - -	60 %

Client Sample ID: 27425.000-0050	Sample ID: S10	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, gray	40 % - - -	NAD
Layer 02 mastic, tan/gray with thin paint, off-white	60 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- Trace - - -	100 %
Layer 02	- Trace - - -	100 %

Client Sample ID: 27425.000-0051	Sample ID: S11	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Muhammad Rauch
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, gray	60 % - - -	NAD
Layer 02 mastic, tan	40 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- Trace - Trace - -	100 %
Layer 02	- Trace - Trace - -	100 %

Client: PBS Engineering and Environmental
4412 S Corbett Avenue
Portland, OR 97239

Report Number: 230100R02
Report Date: 02/09/2023

Job Number: 230100

P.O. No: n/a

Project Name:

Project Number: 27425.000 Phase 0002 Task 002

Project Notes:

Client Sample ID: 27425.000-0052		Sample ID: S12			Date Analyzed: 01/16/2023	
Client Sample Description:					Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01						
rubbery material, gray	30 %	-	-	-		NAD
Layer 02						
mastic, white	70 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	-	-	-	-	100 %

Client Sample ID: 27425.000-0053		Sample ID: S13			Date Analyzed: 01/16/2023	
Client Sample Description:					Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01						
rubbery material, gray	45 %	-	-	-		NAD
Layer 02						
mastic, white	55 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	-	-	-	-	100 %

Client Sample ID: 27425.000-0054		Sample ID: S14			Date Analyzed: 01/16/2023	
Client Sample Description:					Analyst: Ryan Talaski-Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:	
Layer 01						
rubbery material, gray	80 %	-	-	-		NAD
Layer 02						
mastic, brown	20 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	-	-	-	Wollastonite 3 %	97 %



Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 S Corbett Avenue
Portland, OR 97239

Report Number: 230100R02
Report Date: 02/09/2023

Job Number: 230100

P.O. No: n/a

Project Name:

Project Number: 27425.000 Phase 0002 Task 002

Project Notes:

Client Sample ID: 27425.000-0055	Sample ID: S15	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, gray	65 % - - -	NAD
Layer 02 mastic with powder, white	35 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- - - - -	100 %

Client Sample ID: 27425.000-0056	Sample ID: S16	Date Analyzed: 01/16/2023
Client Sample Description:		Analyst: Ryan Talaski-Brown
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite	Percent Asbestos:
Layer 01 rubbery material, gray	75 % - - -	NAD
Layer 02 mastic with powder, white	25 % - - -	NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other	Matrix
Layer 01	- - - - -	100 %
Layer 02	- - - - -	100 %

Client: PBS Engineering and Environmental
4412 S Corbett Avenue
Portland, OR 97239

Report Number: 230100R02
Report Date: 02/09/2023

Job Number: 230100

P.O. No: n/a

Project Name:

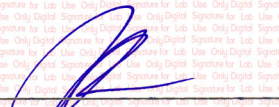
Project Number: 27425.000 Phase 0002 Task 002

Project Notes:

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials and EPA - 40CFR App. E to Subpart E of Part 763, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at \leq or \approx to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:
1% asbestos: $>0-3\%$ error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

Reviewed by:


Muhammad Rauch
PLM Analyst

Reviewed by: [Signature]
 Results Released on: 1/10/23
 Invoice Released on: 1/10/23
 Verbal Email Physical



230100 1/2

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 27425.000 Phase 0002

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: January 10, 2023

PBS Engineering and Environmental Inc.
4412 S Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140
 John Yuly

Name			
<u>John Yuly</u>	<u>01/10/23</u>	<u>10:00AM</u>	
Authorized Signature	Date	Time	

RECEIVER

Date Received: 1/10/23

Company: Lab Cor
Address: 4321 S Corbett Ave Ste A
 Portland, OR 97239
 503-224-5055

Name	<u>Mark [Signature]</u>		
Authorized Signature	<u>[Signature]</u>	<u>1/10/23</u>	<u>10:05</u>
		Date	Time

Sender's ID No.	Brief Description	Receiver's ID No.
27425.000-0041	_____	_____
27425.000-0042	_____	_____
27425.000-0043	_____	_____
27425.000-0044	_____	_____
27425.000-0045	_____	_____
27425.000-0046	_____	_____
27425.000-0047	_____	_____
27425.000-0048	_____	_____
27425.000-0049	_____	_____
27425.000-0050	_____	_____
27425.000-0051	_____	_____
27425.000-0052	_____	_____
27425.000-0053	_____	_____
27425.000-0054	_____	_____



230100²/₂

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

27425.000-0055 _____

27425.000-0056 _____

Please analyze the enclosed 16 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: 5 Day

SPECIAL INSTRUCTIONS:

Sean G., Taylor C.

Mark Donahue

From: Mark Donahue
Sent: Thursday, February 9, 2023 8:02 AM
To: Mark Donahue
Subject: RE: Data Package Revision Requests

230100

From: John Yuly <john.yuly@pbsusa.com>
Sent: Tuesday, February 9, 2023 3:53 PM
To: Mark Donahue <MDonahue@labcorpdx.net>
Cc: Conner Waring <cwaring@labcorpdx.net>
Subject: Data Package Revision Requests

Hey Mark and Conner,

So, I've got quite a couple jobs that need revisions to the project number. Let me know if you want these sent each as separate emails.

~~27425.000 Phase 0001 (LC#230098)~~

~~Should be~~

~~27425.000 Phase 0002 Task 001~~

27425.000 Phase 0002 (LC#230100)

Should be

27425.000 Phase 0002 Task 002

Thanks so much, and sorry for dropping this on you guys!

John Yuly (he/him)

Project Support Specialist

PBS | *Celebrating 40 Years*

4412 S Corbett Ave., Portland, OR 97239

office: 503.248.1939 | direct: 503.417.7576 | mobile: 206.552.1524

Available M-F

John.Yuly@pbsusa.com

pbsusa.com

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Limited Pre-Renovation Asbestos and Lead Paint Survey Report

Dufur School
802 NE 5th Street
Dufur, OR 97021

Prepared for:

Dufur School District #29

General Information	1.1
Inspection Summary	1.2
Survey Drawings	2.1
Sample Inventories	3.1
Laboratory Data	Not Numbered
AHERA Certificates	Not Numbered



April 2019

Project No.: 25842.000 Phase No.: 0001

4412 SW Corbett Avenue, Portland, OR 97239

503.248.1939 Main

866.727.0140 Fax

888.248.1939 Toll-Free

PBSUSA.COM

GENERAL INFORMATION

BUILDING DATA

Dufur School
802 NE 5th Street
Dufur, OR 97021

CLIENT DATA

Dufur School District #29
802 NE 5th Street
Dufur, OR 97021-3034

SURVEY SCOPE

PBS Engineering and Environmental Inc. (PBS) has performed a limited pre-renovation asbestos survey of accessible building areas in accordance with OSHA in 29 CFR 1910.1001 and compiled a report with the following information:

- The type, location, and approximate quantity of suspect asbestos-containing materials
- Bulk sampling of selected suspect building materials
- Lead paint sampling
- Inspection summary
- Floor plan diagrams indicating material and sample locations
- Laboratory analytical data of bulk material sampled

With regard to asbestos, PBS endeavored to locate all the suspect asbestos-containing materials in the building within the scope of work; however, suspect asbestos-containing materials may be present and concealed within wall, ceiling, or floor spaces. If suspect materials are uncovered during demolition activities that are not identified in this report, testing should be performed prior to impact.

PBS has conducted a physical inspection of the building, compiled this report consistent with the survey scope, and certifies that the information is correct and accurate within the standards of professional quality and contractual obligations.

James Mastanduno
Project Manager/Prime Inspector
Accreditation #: IMR-18-4993B

 Digitally signed by James Mastanduno
Date: 2019.04.17 08:41:32 -07'00'

Signature

Date

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INSPECTION SUMMARY

DATES	SURVEYED BY	ACTIVITY
2/18/2019	James Mastanduno	Building Survey

PBS has investigated accessible areas inside of the building to locate suspect asbestos-containing building materials (ACBM). Suspect materials may be present in concealed areas (e.g., behind walls and under carpet). The findings are listed below.

ASBESTOS MATERIALS

The following materials either tested positive, or, based on the experience of PBS field personnel, were not tested and should be considered asbestos-containing. Materials that had mixed results are considered positive. Materials not sampled may contain asbestos and should be tested to verify asbestos content prior to impact through demolition, renovation, etc.

(+) Tested Positive, (M) Mixed Results, (P) Presumed Positive, (T) Previously Tested Positive.

Quantities and locations presented represent only those areas where materials were within the scope of work and are likely to be impacted by planned renovations. Additional quantities and locations of these materials exist throughout the building.

<u>Result</u>	<u>Material (type)</u>	<u>Location</u>	<u>Approx. Quantity</u>
(P)	Boiler jacket insulation	Boiler room	400 SF
(P)	Tank jacket insulation	Stage south mechanical loft	130 SF
(P)	Air-cell and mag pipe insulation and mudded fittings	Tunnel, boiler room, stage mechanical lofts, potentially concealed within wall and ceiling cavities	300 LF
(P)	Insulation and mastic associated with fiberglass HVAC insulation	Stage north mechanical loft	200 SF
(+)	Vinyl floor tile and black mastic on concrete	Office areas (under carpet), gym storage room, southeast classroom	2,500 SF
(+)	Vinyl wall tile and mastic	Southeast classroom around drinking fountain, stage storage room	70 SF
(P)	Cement asbestos board exterior eaves	Boiler room and southeast classroom exteriors	945 SF
(+)	Exterior window glazing	Southeast classroom window	250 SF
(+)	Caulking around window frame perimeter	Southeast classroom window	80 LF
(P)	Fire door insulation	Boiler room	1 EA
(+)	Built up roofing on wood decking	Building entryway and overhang roof	2,125 SF
(+)	Corrugated cement roofing	Gym roof	NOT QUANTIFIED

INSPECTION SUMMARY

(+) Joint compound associated with gypsum wallboard Original construction gypsum walls NOT QUANTIFIED

MATERIALS THAT TESTED NEGATIVE FOR ASBESTOS

The following materials tested negative based on ASHARA sampling minimums and testing by NVLAP participating laboratories. Although no asbestos was detected, it is possible that further sampling could indicate asbestos content. It may be prudent to test prior to impact through demolition, renovation, etc.

<u>Material (type)</u>	<u>Location</u>
1' x 1' white wood fiber ceiling tiles and brown mastic	Restrooms, main hallways, southeast classroom
1' x 1 white wood fiber wall tile and brown mastic	Southeast classroom
12" black vinyl tile and yellow mastic	Office copy room
2' x 4' white lay-in ceiling tile	Office areas
4" gray covebase with white mastic	Southeast classroom
4" gray covebase with yellow mastic	Office areas
Ceiling plastic on steel lath	Boiler room
Cement masonry block and mortar	Boiler room
Ceramic block walls and mortar	Bathrooms, custodial rooms
Ceramic tile floor and grout	Bathrooms, custodial rooms
Exterior siding board	Boiler room exterior
Gray HVAC duct sealant	Air handling equipment
Gray mechanical isolation cloth	HVAC joints
Newer installation gypsum wallboard and joint compound walls and ceilings	Office walls
Older brown covebase with brown mastic	Office areas
Red chimney brick and mortar	Boiler room
Residual brown ceiling tile glue dots	Office areas above drop ceiling
Roof penetration sealant	Office area roof at mechanical unit
Silver chimney door paint	Boiler room
Tan cement block and mortar	Hallways
Tan chimney fire brick	Boiler room
Unfinished gypsum ceiling board	Southeast classroom, glued ceiling tile areas
Yellow carpet mastic	Carpeted areas throughout

INSPECTION SUMMARY

On February 18, 2019, PBS performed a limited pre-renovation asbestos and lead paint survey of the Dufur School building located at 802 NE 5th Street in Dufur, Oregon. The survey was requested by Dufur School District and Straightline Architects in anticipation of renovations of the building.

BACKGROUND

The purpose of the survey was to locate, identify, and quantify accessible friable and non-friable asbestos-containing building materials and lead-based paint for removal prior to renovation. The inspection was limited to the areas included in a testing plan provided to PBS by Straightline Architects and dated January 21, 2019. A comprehensive survey of the building was not completed and asbestos-containing materials are known to exist in other parts of the building not included in this scope of work.

The survey is also intended to satisfy Occupational Safety and Health Administration (OSHA) hazard communication requirements as well as requirements by the Department of Environmental Quality (DEQ) to perform an asbestos inspection prior to renovation or demolition activities under Oregon Administrative Rule (OAR) 340-248-0270.

ASBESTOS SUMMARY

A PBS Asbestos Hazard Emergency Response Act (AHERA) accredited inspector inspected the building to determine the presence, location, and approximate quantity of asbestos containing materials (ACM). Thirty-eight bulk samples of building materials, suspected of containing asbestos, were collected and submitted under chain of custody to Lab/Cor Portland Inc. of Portland, Oregon, for polarized light microscopy (PLM) analysis. The following materials were found to contain asbestos:

- Boiler jacket insulation in the boiler room.
- Tank jacket insulation in the south stage mechanical loft.
- Air-cell and mag pipe insulation associated with steam and domestic water plumbing lines in the tunnel, boiler room, stage mechanical lofts, and concealed within wall cavities.
- Asbestos-containing insulation/mastic associated with fiberglass insulation on ductwork in the north stage mechanical loft.
- Asbestos-containing vinyl floor tile and associated mastic on concrete in the office (under carpet), gym storage room, and the southeast classroom.
- Asbestos-containing vinyl wall tile and associated mastic in the southeast classroom and stage north storage room.
- Exterior cement asbestos board eaves near the boiler room and southeast classroom.
- Exterior window glazing and window frame caulking on the southeast classroom windows.
- Insulation within boiler room fire door.
- Built-up roofing on wood decking over building entryway.
- Corrugated cement roofing panels over gym roof.

The following building material has been found to contain less than one percent (<1%) asbestos. It should be noted that the Environmental Protection Agency (EPA) does not consider building materials that contain <1% asbestos to be asbestos-containing building materials. These materials are included in the asbestos-containing materials section of this report for the sake of hazard communication, since there are some OSHA restrictions and

INSPECTION SUMMARY

handling requirements associated with these materials:

- Joint compound associated with original construction gypsum wallboard walls.

At the time of this survey, all asbestos-containing building materials were observed to be in good condition. Boiler, pipe, and duct insulation were found to be friable during the investigation. All other asbestos-containing building materials were non-friable at the time of this survey.

Please refer to the asbestos bulk sample inventory for more sample details.

Asbestos Regulations

Oregon DEQ, Environmental Protection Agency (EPA), and OSHA regulations require proper removal and handling of ACM by licensed and trained asbestos abatement contractors prior to building renovations or demolition.

The EPA, DEQ, and OSHA all define ACM as any material containing more than one percent asbestos. Although materials equal to or less than one percent are not considered by regulatory agencies to be an ACM, they still have some asbestos content, and Oregon OSHA has specific requirements for situations in which workers may encounter, disturb, or remove materials containing any level of asbestos. For the sake of hazard communication, these materials are included in the asbestos-containing materials section of this report.

In 1995, Oregon OSHA adopted 29 Code of Federal Regulations (CFR) Part 1926.1101 governing asbestos under OAR 437-003-1926.1101. The regulation has made significant changes in work procedures and how asbestos materials are managed. OSHA believes that the single biggest risk of asbestos exposure is to workers who unknowingly or improperly disturb ACM. Hazard communication, training, personal protection, work practices, exposure monitoring, and recordkeeping are all major components of the regulation.

DEQ's OAR 340, Division 248 also covers asbestos abatement requirements, removal notifications, licensing, and certifications for contractors.

For more information regarding the removal of asbestos-containing materials, please refer to the following:

1. Oregon Occupational Safety and Health Administration, OAR 437-003-1926.1101
2. Department of Environmental Quality, OAR-340, Division 248

INSPECTION SUMMARY

LEAD SUMMARY

Paint was sampled for lead content for the sake of hazard communication.

Four paint chip samples were collected from representative building components from the building and submitted under chain of custody to RJ Lee Group of Monroeville, Pennsylvania, for analysis of lead content via flame atomic absorption (FLAA). The concentration of lead in the samples range from less than 200 parts per million (ppm) to 1,200 ppm.

See the lead sample inventory section for representative building components and corresponding results.

Paint testing for this survey was limited in scope. The report information and testing results are not to be construed as an exhaustive investigation of lead-containing paint on all building surfaces. All paint on painted surfaces not identified in this report should be presumed to contain lead.

Lead-Containing Paint Regulations

The Consumer Product Safety Commission limit for lead in consumer paint products is 0.009 percent or 90 parts per million (ppm) or greater. The Department of Housing and Urban Development (HUD) and the EPA define lead-based paint as that which contains 0.5 percent or 5,000 ppm. Under OSHA, any lead concentration in paint that may become airborne during construction operations triggers requirements in the OSHA Lead in Construction Standard 29 CFR 1926.62 to protect employees impacting the paint.

In 1993, Oregon OSHA adopted the federal OSHA Lead Standard for the Construction Industry Title 29 CFR 1926.62 under Oregon Administrative Rule 437 Division 3 1926.62. This standard outlines worker exposure limits, personal protection requirements, and employer responsibility for exposure assessment, training, housekeeping, and recordkeeping. OSHA's lead standard applies to all work where employees may be exposed to lead in construction, alteration, or repair activities. This includes demolition or renovation of structures where lead-containing materials are present.

Disposal

According to Oregon DEQ's *Hazardous Waste/Toxics Reduction Policy Clarification*, disposal of building demolition waste coated with lead-based paint generally will not require a hazardous waste determination (i.e., toxicity characteristic leaching procedures [TCLP] testing) if demolition debris is disposed of at a DEQ-permitted solid waste landfill that meets the current design standards for municipal solid waste disposal facilities of 40 CFR Part 258.

Refer to the DEQ hazardous waste reduction policy and follow all requirements under the Oregon DEQ, Management of Building Demolition Waste, 97-002A for proper disposal of lead-based painted demolition waste.

This report is not suitable as a bid document or an asbestos abatement design. The purpose of this report is risk hazard communication only.

NO.	REVISION	DATE	BY	APP'D

DRAWN BY	
CHECKED BY	
DATE	
PROJECT NUMBER	25842.000
SHEET DRAWING NO.	

GENERAL NOTES

1. ALL SURVEYING AND SAMPLING INFORMATION IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS.
2. ACCESSIBLE AREAS WERE INSPECTED ON THIS DATE. CEILING AREAS WERE INSPECTED USING A SCOPED TELESCOPE. REPRESENTATIVE SAMPLES OF HOMOGENEOUS MATERIALS WERE TAKEN ONLY IF POSITIVE OR PRESUMED POSITIVE MATERIALS ARE IDENTIFIED. FOR ADDITIONAL INFORMATION, REFER TO THE SURVEY INVENTORIES FOR ADDITIONAL INFORMATION.
3. INACCESSIBLE AND/OR CONCEALED ASBESTOS CONTAINING MATERIALS WERE NOT IDENTIFIED. QUANTITIES ARE UNKNOWN.
4. LEAD-CONTAINING PAINT AND VARNISH ARE PRESENT ON THE MAJORITY OF REPRESENTATIVE BUILDING COMPONENTS TESTED. TESTING WAS LIMITED IN NATURE. ALL OTHER UNTESTED PAINTED SURFACES SHOULD BE PRESUMED TO CONTAIN LEAD.

SURVEY NOTES

1. ASBESTOS-CONTAINING APPLICATIONS SHOULD BE ASSUMED TO BE PRESENT UNDER CASEROCK IN AREAS WHERE THE MATERIAL IS PRESENT.
2. ASBESTOS-CONTAINING PIPE INSULATION WAS IDENTIFIED WITHIN THE TUNNEL, BOILER ROOM, AND MECHANICAL LOFTS. PIPE INSULATION IS LIKELY PRESENT WITHIN WALL CAVITIES, CEILING CAVITIES, AND MECHANICAL LOFTS. ASBESTOS-CONTAINING APPLICATIONS SHOULD BE ANTICIPATED TO BE PRESENT AT RADIATOR AND LOCATIONS AND WET WALLS NEAR PLUMBING FIXTURES.
3. JOINT COMPOUND ASSOCIATED WITH GYPSUM WALLBOARD ON ORIGINAL CONSTRUCTION GYPSUM WALLBOARD WALLS WAS FOUND TO CONTAIN LESS THAN ONE PERCENT ASBESTOS.
4. ROOF SAMPLING IDENTIFIED ASBESTOS-CONTAINING BUILT-UP ROOFING OVER THE WOOD DECKING AT THE BUILDING ENTRANCE AND ASBESTOS-CONTAINING CORRUGATED CEMENT ROOFING OVER THE CHL.

KEY NOTES

1. LOCATION OF PLUMBING AND RADIATORS THAT MAY CONCEAL ASBESTOS-CONTAINING INSULATION WITHIN WALL, FLOOR, OR CEILING CAVITIES.
2. TUNNEL ENTRANCES WITH ASBESTOS-CONTAINING PIPE INSULATION LEADING TO THE REST OF THE BUILDING.

LEGEND

- ASBESTOS-CONTAINING FLOOR TILE AND MASTIC ON CONCRETE UNDER CARPET
- ASBESTOS-CONTAINING FLOOR TILE AND MASTIC ON CONCRETE
- EXTERIOR CEMENT ASBESTOS BOARD EAVES
- ASBESTOS-CONTAINING VINYL WALL TILE AND MASTIC
- ASBESTOS-CONTAINING HORIZONTAL PIPE INSULATION
- ASBESTOS-CONTAINING VERTICAL PIPE INSULATION
- EXTERIOR WINDOW ASSEMBLIES WITH ASBESTOS-CONTAINING CAULK AND GLAZING
- ASBESTOS-CONTAINING BOILER OR TANK INSULATION
- PRESUMED ASBESTOS-CONTAINING FIRE DOOR
- ASBESTOS-CONTAINING INSULATING COMPOUND WITH FIBERGLASS DUCT INSULATION

ASBESTOS SAMPLE SYMBOLS

0.07 - VINYL FLOOR TILE, SAMPLE FIELD CODE.
 0.07 - SEE INVENTORY OF SAMPLES

NOT TESTED: ○ (NEGATIVE), ◊ (POSITIVE)

MATERIAL SYMBOL: □ (THERMAL SYSTEM INSULATION), ◻ (SURFACING MATERIAL), ◆ (MISCELLANEOUS MATERIAL)

INVENTORY OF ASBESTOS SAMPLES

DRAWING FIELD NO.	FIELD NO.	LAB RESULT	MATERIAL
0.01	25842.000-0001	(+)	CMU (01)
0.02	25842.000-0002	(+)	BRICK (02)
0.03	25842.000-0003	(+)	BRICK (02)
0.04	25842.000-0004	(+)	BRICK (02)
0.05	25842.000-0005	(+)	WALL AND CEILING PLASTER (01)
0.06	25842.000-0006	(+)	VINYL FLOOR TILE (02)
0.07	25842.000-0007	(+)	VINYL FLOOR TILE (02)
0.08	25842.000-0008	(+)	COVERBASEMASTIC (02)
0.09	25842.000-0009	(+)	LAY-IN CEILING TILE (01)
0.10	25842.000-0010	(+)	GYPSUM WALLBOARD / JOINT COMPOUND (01)
0.11	25842.000-0011	(+)	VINYL FLOOR TILE (02)
0.12	25842.000-0012	(+)	VINYL FLOOR TILE (02)
0.13	25842.000-0013	(+)	VINYL FLOOR TILE (02)
0.14	25842.000-0014	(+)	JOINT COMPOUND (02)
0.15	25842.000-0015	(+)	MASTIC (01)
0.16	25842.000-0016	(+)	CAULK (01)

INVENTORY OF ASBESTOS SAMPLES (CONTINUED)

REFERENCE CODE	SAMPLED	RESULT	
0.17	25842.000-0017	(+)	GLUED-ON CEILING TILES (01)
0.18	25842.000-0018	(+)	CERAMIC TILE GROUT (01)
0.19	25842.000-0019	(+)	CERAMIC TILE GROUT (02)
0.20	25842.000-0020	(+)	JOINT COMPOUND (01)
0.21	25842.000-0021	(+)	JOINT COMPOUND (02)
0.22	25842.000-0022	(+)	GLUED-ON CEILING TILES (01)
0.23	25842.000-0023	(+)	GLUED-ON CEILING TILES (02)
0.24	25842.000-0024	(+)	GLUED-ON CEILING TILES (03)
0.25	25842.000-0025	(+)	VINYL FLOOR TILE (04)
0.26	25842.000-0026	(+)	VINYL FLOOR TILE (05)
0.27	25842.000-0027	(+)	INSULATING CEMENT (01)
0.28	25842.000-0028	(+)	VINYL FLOOR TILE (06)
0.29	25842.000-0029	(+)	COVERBASEMASTIC (03)
0.30	25842.000-0030	(+)	GLUED-ON CEILING TILES (02)
0.31	25842.000-0031	(+)	GLUED-ON CEILING TILES (03)
0.32	25842.000-0032	(+)	GLUED-ON CEILING TILES (03)
0.33	25842.000-0033	(+)	SIDING (01)
0.34	25842.000-0034	(+)	GLUED-ON CEILING TILES (01)
0.35	25842.000-0035	(+)	CAULK (02)
0.36	25842.000-0036	(+)	GLAZING COMPOUND (01)
0.37	25842.000-0037	(+)	BUILT-UP ROOFING (01)
0.38	25842.000-0038	(+)	BUILT-UP ROOFING (02)
0.39	25842.000-0039	(+)	CEMENT ASBESTOS BOARD (01)

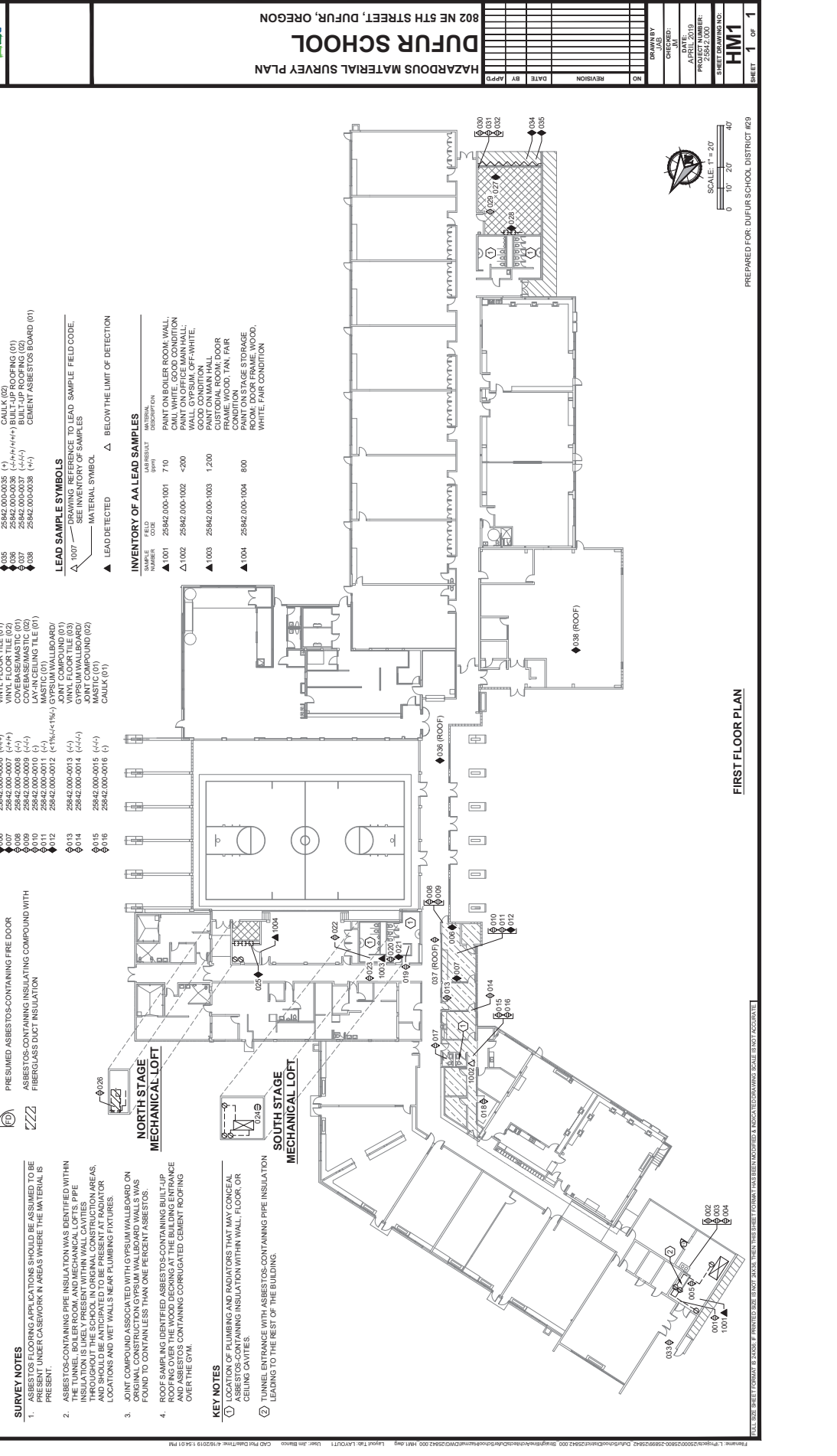
LEAD SAMPLE SYMBOLS

1007 - DRAWING REFERENCE TO LEAD SAMPLE FIELD CODE.
 1008 - DRAWING REFERENCE TO LEAD SAMPLE FIELD CODE.
 1009 - DRAWING REFERENCE TO LEAD SAMPLE FIELD CODE.

▲ - LEAD DETECTED
 △ - BELOW THE LIMIT OF DETECTION

INVENTORY OF AA LEAD SAMPLES

SAMPLE FIELD NO.	FIELD NO.	LAB RESULT	MATERIAL
1001	25842.000-1001	710	PAINT ON BOILER ROOM WALL
1002	25842.000-1002	<200	CMU WHITE, GOOD CONDITION
1003	25842.000-1003	1,200	PAINT ON OFFICE MAIN HALL, GOOD CONDITION, OFF-WHITE, GOOD CONDUCTIVITY
1004	25842.000-1004	800	PAINT ON MAIN HALL, CUSTOMARY ROOM, DOOR CONDITION, CO. TAN, PAIR
1005	25842.000-1005	800	PAINT ON STAGE STORAGE, WHITE, PAIR CONDITION



FIRST FLOOR PLAN

PREPARED FOR: DUFUR SCHOOL DISTRICT #29

DATE: 05/20/2003
 PROJECT NUMBER: 25842.000
 SHEET DRAWING NO.: HM1
 SHEET 1 OF 1

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.000-0001	CMU (01)		Boiler room; cement block and mortar	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	rubbery coating, white		No Asbestos Detected
		Layer 2	cementitious material, gray	No Asbestos Detected	
25842.000-0002	Brick (01)		Boiler room; red chimney brick and mortar	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	ceramic material, red		No Asbestos Detected
		Layer 2	cementitious material, gray	No Asbestos Detected	
25842.000-0003	Brick (02)		Boiler room; tan chimney fire brick	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	granular cement material, brown	No Asbestos Detected	
25842.000-0004	Paint (01)		Boiler room; silver outer chimney door paint	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	paint, silver	No Asbestos Detected	
25842.000-0005	Wall and Ceiling Plaster (01)		Boiler room; plaster ceiling on steel lath	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	cementitious material, off-white	No Asbestos Detected	
25842.000-0006	Vinyl Floor Tile (01)		Office reception; 12" gray vinyl floor tile with yellow and black mastic	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	mastic, tan		No Asbestos Detected
		Layer 2	vinyl, gray		No Asbestos Detected
		Layer 3	mastic, black	2% Chrysotile	
25842.000-0007	Vinyl Floor Tile (02)		Office reception; 9" tan vinyl floor tile with black mastic	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	mastic, yellow		No Asbestos Detected
		Layer 2	hard vinyl, tan		4% Chrysotile
		Layer 3	mastic, black	3% Chrysotile	
25842.000-0008	Covebase/Mastic (01)		Office reception; 4" gray covebase with yellow mastic	Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	rubbery material, gray		No Asbestos Detected
		Layer 2	mastic, yellow/tan	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.000-0009	Covebase/Mastic (02)	Office reception; brown old covebase with brown mastic		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Yellow brittle mastic		No Asbestos Detected
		Layer 2	Brown rubbery material		No Asbestos Detected
	Layer 3	Brown brittle mastic	No Asbestos Detected		
25842.000-0010	Lay-in Ceiling Tile (01)	Office reception; 2' by 4' white lay-in ceiling tile		Lab Cor	
		Layer:	Description:		Analysis:
	Layer 1	compressed fibrous material, tan with paint, white	No Asbestos Detected		
25842.000-0011	Mastic (01)	Office reception; brown residual ceiling tile glue dots		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Trace brown compressed fibrous material		No Asbestos Detected
	Layer 2	Brown brittle mastic	No Asbestos Detected		
25842.000-0012	Gypsum Wallboard/Joint Compound (01)	Office reception; gypsum and joint compound old ceiling board		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	fine compact powder, off-white		<1% Chrysotile
		Layer 2	paper backing, off-white		No Asbestos Detected
		Layer 3	fine compact powder, off-white		<1% Chrysotile
	Layer 4	compact chalky material with paper, white	No Asbestos Detected		
25842.000-0013	Vinyl Floor Tile (03)	Office copy room; 12" black vinyl floor tile with yellow mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	mastic, yellow		No Asbestos Detected
	Layer 2	hard vinyl, black	No Asbestos Detected		
25842.000-0014	Gypsum Wallboard/Joint Compound (02)	Office copy room; office wall gypsum and joint compound		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	fine compact powder, white with paint, off-white		No Asbestos Detected
		Layer 2	paper backing, off-white		No Asbestos Detected
		Layer 3	fine compact powder, white		No Asbestos Detected
	Layer 4	compact chalky material with paper, white	No Asbestos Detected		

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.000-0015	Mastic (01)	Office hall; brown residual ceiling tile glue dots		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	Beige fibrous material	No Asbestos Detected
		Layer 2	Brown brittle mastic	No Asbestos Detected
		Layer 3	Trace tan wooden compressed fibrous material	No Asbestos Detected
25842.000-0016	Caulk (01)	Office hall; gray HVAC duct sealant		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	rubbery material, gray	No Asbestos Detected
25842.000-0017	Glued-on Ceiling Tiles (01)	Office men's restroom; 1' by 1' waste wood fiber ceiling tile with brown mastic		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	Tan wooden compressed fibrous material with paint	No Asbestos Detected
		Layer 2	Brown brittle mastic	No Asbestos Detected
		Layer 3	Beige fibrous material	No Asbestos Detected
25842.000-0018	Mastic (02)	Office southwest office; yellow carpet mastic		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	mastic, yellow/gray	No Asbestos Detected
25842.000-0019	Ceramic Tile/Grout (01)	Main hall custodial room; ceramic block wall and mortar		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	granular compact powder, gray	No Asbestos Detected
		Layer 2	granular compact powder, orange/off-white	No Asbestos Detected
25842.000-0020	Ceramic Tile/Grout (02)	Main hall custodial room; ceramic tile floor and grout		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	hard compact powder, gray	No Asbestos Detected
		Layer 2	hard compact powder, tan	No Asbestos Detected
25842.000-0021	Gypsum Wallboard/Joint Compound (03)	Main hall custodial room; gypsum and joint compound ceiling		Lab Cor
		Layer:	Description:	Analysis:
		Layer 1	fine compact powder, off-white, with paint, gray	3% Chrysotile
		Layer 2	compact chalky material with paper, white	No Asbestos Detected

Comments: Gravimetric reduction and point count (400) % asbestos: 0.33

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25842.000-0022	Glued-on Ceiling Tiles (01)	Main hall men's restroom; 1' by 1' white wood fiber ceiling tile with brown mastic		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Tan wooden compressed fibrous material with paint		No Asbestos Detected
		Layer 2	Brown brittle mastic	No Asbestos Detected	
25842.000-0023	CMU (02)	Gym hall by restrooms; tan CMU and mortar		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	granular compact powder, tan/brown/red		No Asbestos Detected
		Layer 2	granular compact powder, tan	No Asbestos Detected	
25842.000-0024	Mechanical Isolation Cloth (01)	Mechanical stage area; over restrooms, gray mechanical cloth		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	woven fibers, gray	No Asbestos Detected	
25842.000-0025	Vinyl Floor Tile (04)	Stage store room; 9" brown vinyl floor tile and black mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	vinyl, reddish brown		4% Chrysotile
		Layer 2	mastic, black	5% Chrysotile	
25842.000-0026	Insulating Cement (01)	Mechanical room; over stage store room, HVAC ductwork fiberglass insulation and ACM cement		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	loose fibrous material, yellow		No Asbestos Detected
		Layer 2	woven fibers, off-white	No Asbestos Detected	
25842.000-0027	Vinyl Floor Tile (05)	Far southeast classroom; 12" gray vinyl floor tile with black mastic		Lab Cor	
		Layer:	Description:		Analysis:
		Layer 1	vinyl, gray		No Asbestos Detected
		Layer 2	mastic, black	2% Chrysotile	
25842.000-0028	Vinyl Floor Tile (06)	Far southeast classroom; 9" brown wall tile with brown mastic		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Tan tile		6% Chrysotile
		Layer 2	Brown brittle mastic	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.000-0029	Covebase/Mastic (03)	Far southeast classroom; 4" gray covebase with white mastic		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	flexible material, gray	No Asbestos Detected	
	Layer 2	mastic, off-white/tan	No Asbestos Detected	
	Layer 3	mastic, brown	No Asbestos Detected	
25842.000-0030	Glued-on Ceiling Tiles (02)	Far southeast classroom; 1' by 1' white wood fiber wall tile with brown mastic		NVL Labs, Inc.
	Layer:	Description:	Analysis:	
	Layer 1	Tan compressed fibrous material with white coating	No Asbestos Detected	
	Layer 2	Brown brittle mastic	No Asbestos Detected	
25842.000-0031	Gypsum Wallboard (01)	Far southeast classroom; gypsum ceiling board		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	chalky material, light gray, with fibrous backing	No Asbestos Detected	
25842.000-0032	Glued-on Ceiling Tiles (03)	Far southeast classroom; 1' by 1' white wood fiber ceiling tile with brown mastic		NVL Labs, Inc.
	Layer:	Description:	Analysis:	
	Layer 1	Tan wooden compressed fibrous material with white paint	No Asbestos Detected	
	Layer 2	Brown brittle mastic	No Asbestos Detected	
25842.000-0033	Siding (01)	Boiler room; exterior, siding board		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	paint, white	No Asbestos Detected	
	Layer 2	compressed fibers, tan	No Asbestos Detected	
25842.000-0034	Window Glazing Compound (01)	Southeast classroom exterior; gray window glazing		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	hard compact powder, light gray	<1% Chrysotile	
25842.000-0035	Caulk (02)	Southeast classroom exterior; gray window frame caulk		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	hard compact material, gray	8% Chrysotile	



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BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
http://www.labcorpdx.net

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0001		Sample ID: S1			Date Analyzed: 02/21/2019			
Client Sample Description:					Analyst: Stephanie Golden			
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:		
Layer 01								
rubbery coating, white	10 %	-	-	-				NAD
Layer 02								
cementitious material, gray	90 %	-	-	-				NAD
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
Layer 01	-	-	-	-	-	-		100 %
Layer 02	-	-	-	-	-	-		100 %

Client Sample ID: 25842.000-0002		Sample ID: S2			Date Analyzed: 02/21/2019			
Client Sample Description:					Analyst: Stephanie Golden			
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:		
Layer 01								
ceramic material, red	40 %	-	-	-				NAD
Layer 02								
cementitious material, gray	60 %	-	-	-				NAD
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
Layer 01	-	-	-	-	-	-		100 %
Layer 02	-	-	-	-	-	-		100 %

Client Sample ID: 25842.000-0003		Sample ID: S3			Date Analyzed: 02/21/2019			
Client Sample Description:					Analyst: Stephanie Golden			
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:		
Homogeneous								
granular cement material, brown	100 %	-	-	-				NAD
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
	-	-	-	-	-	-		100 %



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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0004	Sample ID: S4	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous paint, silver	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- - - - -		100 %

Client Sample ID: 25842.000-0005	Sample ID: S5	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous cementitious material, off-white	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- - - - -		100 %

Client Sample ID: 25842.000-0006	Sample ID: S6	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01 mastic, tan	3 % - - -		NAD
Layer 02 vinyl, gray	96 % - - -		NAD
Layer 03 mastic, black	1 % 2 % - -		2 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -		100 %
Layer 02	- - - - -		100 %
Layer 03	- - - - -		98 %



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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0007	Sample ID: S7				Date Analyzed: 02/21/2019	
Client Sample Description:					Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Layer 01						
mastic, yellow	5 %	-	-	-		NAD
Layer 02						
hard vinyl, tan	93 %	4 %	-	-		4 %
Layer 03						
mastic, black	2 %	3 %	-	-		3 %
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	-	-	-	-	96 %
Layer 03	-	-	-	-	-	97 %

Client Sample ID: 25842.000-0008	Sample ID: S8				Date Analyzed: 02/21/2019	
Client Sample Description:					Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Layer 01						
rubbery material, gray	92 %	-	-	-		NAD
Layer 02						
mastic, yellow/tan	8 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	-	-	-	-	100 %

Client Sample ID: 25842.000-0010	Sample ID: S9				Date Analyzed: 02/21/2019	
Client Sample Description:					Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
compressed fibrous material, tan with paint, white	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	5 %	55 %	5 %	-	-	20 %
						Perlite 15 %

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Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055
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4412 SW Corbett Avenue
Portland, OR 97239**Report Number:** 190983R01
Report Date: 02/21/2019**Job Number:** 190983**P.O. No:** n/a**Project Name:****Project Number:** 25842.000 Phase 0001**Project Notes:**

Client Sample ID: 25842.000-0012	Sample ID: S10	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
			Crocidolite
			Percent Asbestos:
Layer 01			
fine compact powder, off-white	5 %	Trace	- -
			< 1 %
Layer 02			
paper backing, off-white	8 %	-	- -
			NAD
Layer 03			
fine compact powder, off-white	5 %	Trace	- -
			< 1 %
Layer 04			
compact chalky material with paper, white	82 %	-	- -
			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
			Matrix
Layer 01	-	-	- - -
			100 %
Layer 02	-	100 %	- - -
			0 %
Layer 03	-	-	- - -
			100 %
Layer 04	-	5 %	- - -
			95 %

Client Sample ID: 25842.000-0013	Sample ID: S11	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite
			Crocidolite
			Percent Asbestos:
Layer 01			
mastic, yellow	2 %	-	- -
			NAD
Layer 02			
hard vinyl, black	98 %	-	- -
			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
			Matrix
Layer 01	-	-	- - -
			100 %
Layer 02	-	-	- - -
			100 %

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4412 SW Corbett Avenue
Portland, OR 97239**Report Number:** 190983R01
Report Date: 02/21/2019**Job Number:** 190983**P.O. No:** n/a**Project Name:****Project Number:** 25842.000 Phase 0001**Project Notes:**

Client Sample ID: 25842.000-0014	Sample ID: S12	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01 fine compact powder, white with paint, off-white	5 % - - -		NAD
Layer 02 paper backing, off-white	8 % - - -		NAD
Layer 03 fine compact powder, white	7 % - - -		NAD
Layer 04 compact chalky material with paper, white	80 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -		100 %
Layer 02	- 100 % - - -		0 %
Layer 03	- - - - -		100 %
Layer 04	- 5 % - - -		95 %

Client Sample ID: 25842.000-0016	Sample ID: S13	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous rubbery material, gray	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- - - - -		100 %

Client Sample ID: 25842.000-0018	Sample ID: S14	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous mastic, yellow/gray	100 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- 2 % - - -		98 %

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4412 SW Corbett Avenue
Portland, OR 97239**Report Number:** 190983R01
Report Date: 02/21/2019**Job Number:** 190983**P.O. No:** n/a**Project Name:****Project Number:** 25842.000 Phase 0001**Project Notes:**

Client Sample ID: 25842.000-0019	Sample ID: S15	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Tim Cammann	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01			
granular compact powder, gray	20 % - - -		NAD
Layer 02			
granular compact powder, orange/off-white	80 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -	-	100 %
Layer 02	- - - - -	-	100 %

Client Sample ID: 25842.000-0020	Sample ID: S16	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Tim Cammann	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Layer 01			
hard compact powder, gray	10 % - - -		NAD
Layer 02			
hard compact powder, tan	90 % - - -		NAD
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
Layer 01	- - - - -	-	100 %
Layer 02	- - - - -	-	100 %



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BULK SAMPLE ASBESTOS ANALYSIS

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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0021		Sample ID: S17			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:					Analyst: Tim Cammann		
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite		
Layer 01 fine compact powder, off-white, with paint, gray		75 %	3 %	-	-	3 %	
Layer 02 compact chalky material with paper, white		25 %	-	-	-	NAD	
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01		-	6 %	-	-	-	91 %
Layer 02		-	15 %	-	-	-	85 %

Client Sample ID: 25842.000-0023		Sample ID: S18			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:					Analyst: Tim Cammann		
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite		
Layer 01 granular compact powder, tan/brown/red		50 %	-	-	-	NAD	
Layer 02 granular compact powder, tan		50 %	-	-	-	NAD	
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01		-	-	-	-	-	100 %
Layer 02		-	-	-	-	-	100 %

Client Sample ID: 25842.000-0024		Sample ID: S19			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:					Analyst: Ellie Brown		
Asbestos Mineral Fibers		Layer Percent:	Chrysotile	Amosite	Crocidolite		
Homogeneous woven fibers, gray		100 %	-	-	-	NAD	
Other Fibers		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
		-	-	-	-	-	100 %



Lab/Cor Portland, Inc.

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BULK SAMPLE ASBESTOS ANALYSIS

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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0025		Sample ID: S20			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:		Analyst: Ellie Brown					
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite			
Layer 01							
vinyl, reddish brown	90 %	4 %	-	-			4 %
Layer 02							
mastic, black	10 %	5 %	-	-			5 %
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
Layer 01	-	-	-	-	-	96 %	
Layer 02	-	Trace	-	-	Wollastonite 2 %	93 %	

Client Sample ID: 25842.000-0026		Sample ID: S21			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:		Analyst: Ellie Brown					
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite			
Layer 01							
loose fibrous material, yellow	70 %	-	-	-			NAD
Layer 02							
woven fibers, off-white	30 %	-	-	-			NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
Layer 01	-	-	100 %	-	-	0 %	
Layer 02	-	100 %	-	-	-	0 %	

Client Sample ID: 25842.000-0027		Sample ID: S22			Date Analyzed: 02/21/2019		Percent Asbestos:
Client Sample Description:		Analyst: Ellie Brown					
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite			
Layer 01							
vinyl, gray	90 %	-	-	-			NAD
Layer 02							
mastic, black	10 %	2 %	-	-			2 %
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
Layer 01	-	-	-	-	-	100 %	
Layer 02	-	Trace	-	-	-	98 %	



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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
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Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

<u>Client Sample ID:</u>	25842.000-0029		<u>Sample ID:</u>	S23		<u>Date Analyzed:</u>	02/21/2019			
<u>Client Sample Description:</u>									<u>Analyst:</u>	Ellie Brown
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite					<u>Percent Asbestos:</u>	
Layer 01										
flexible material, gray	94 %	-	-	-					NAD	
Layer 02										
mastic, off-white/tan	5 %	-	-	-					NAD	
Layer 03										
mastic, brown	1 %	-	-	-					NAD	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix			
Layer 01	-	-	-	-	-	-	-	-	100 %	
Layer 02	-	2 %	-	-	-	-	-	-	98 %	
Layer 03	-	-	-	-	-	-	-	-	100 %	

<u>Client Sample ID:</u>	25842.000-0031		<u>Sample ID:</u>	S24		<u>Date Analyzed:</u>	02/21/2019			
<u>Client Sample Description:</u>									<u>Analyst:</u>	Ellie Brown
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite					<u>Percent Asbestos:</u>	
Homogeneous										
chalky material, light gray, with fibrous	100 %	-	-	-					NAD	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix			
	-	2 %	-	-	-	-	-	-	98 %	

<u>Client Sample ID:</u>	25842.000-0033		<u>Sample ID:</u>	S25		<u>Date Analyzed:</u>	02/21/2019			
<u>Client Sample Description:</u>									<u>Analyst:</u>	Ryan Brown
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite					<u>Percent Asbestos:</u>	
Layer 01										
paint, white	25 %	-	-	-					NAD	
Layer 02										
compressed fibers, tan	75 %	-	-	-					NAD	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix			
Layer 01	-	-	-	-	-	-	-	-	100 %	
Layer 02	-	25 %	-	-	-	-	-	-	75 %	



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BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
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Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 190983R01
Report Date: 02/21/2019

Job Number: 190983

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0034	Sample ID: S26	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Ryan Brown	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous			
hard compact powder, light gray	100 % Trace - -		< 1 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
-	-	-	-

Client Sample ID: 25842.000-0035	Sample ID: S27	Date Analyzed: 02/21/2019	
Client Sample Description:		Analyst: Ryan Brown	
Asbestos Mineral Fibers	Layer Percent: Chrysotile Amosite Crocidolite		Percent Asbestos:
Homogeneous			
hard compact material, gray	100 % 8 % - -		8 %
Other Fibers	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 92 %
-	-	-	-



190983 1/2

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: February 19, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name

AJ 2/19/19 1445
Authorized Signature Date Time

RECEIVER

Date Received: 2/19/19

Company: Lab Cor
Address: 4321 SW Corbett Ave Ste A
Portland, OR 97239
503-224-5055

Mark D. ...
Name

[Signature] 2/19/19 2:35
Authorized Signature Date Time

Sender's ID No.	Brief Description
25842.000-0001	_____
25842.000-0002	_____
25842.000-0003	_____
25842.000-0004	_____
25842.000-0005	_____
25842.000-0006	_____
25842.000-0007	_____
25842.000-0008	_____
25842.000-0010	_____
25842.000-0012	_____
25842.000-0013	_____
25842.000-0014	_____
25842.000-0016	_____
25842.000-0018	_____

Receiver's ID No.



190983 1/2

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

25842.000-0019		
25842.000-0020		
25842.000-0021		
25842.000-0023		
25842.000-0024		
25842.000-0025		
25842.000-0026		
25842.000-0027		
25842.000-0029		
25842.000-0031		
25842.000-0033		
25842.000-0034		
25842.000-0035		

Please analyze the enclosed 27 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: 48 Hour

SPECIAL INSTRUCTIONS:
 * - Skipped sample #

SRM

February 20, 2019



Alex Johnson
PBS Environmental - Portland
4412 SW Corbett Ave.
Portland, OR 97239

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1903221.00

Client Project: 25842.000 Phase 0001
Location: N-A

Dear Mr. Johnson,

Enclosed please find test results for the 8 sample(s) submitted to our laboratory for analysis on 2/20/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: PBS Environmental - Portland
 Address: 4412 SW Corbett Ave.
 Portland, OR 97239

Batch #: 1903221.00

Client Project #: 25842.000 Phase 0001

Date Received: 2/20/2019

Samples Received: 8

Samples Analyzed: 8

Method: EPA/600/R-93/116
 & EPA/600/M4-82-020

Attention: Mr. Alex Johnson

Project Location: N-A

Lab ID: 19016891 Client Sample #: 25842.000-0009

Location: N-A

Layer 1 of 3	Description: Yellow brittle mastic	Non-Fibrous Materials: Calcareous particles, Mastic/Binder	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 2 of 3	Description: Brown rubbery material	Non-Fibrous Materials: Calcareous particles, Rubber/Binder	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 3 of 3	Description: Brown brittle mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% Cellulose <1%	Asbestos Type: % None Detected ND

Lab ID: 19016892 Client Sample #: 25842.000-0011

Location: N-A

Layer 1 of 2	Description: Trace brown compressed fibrous material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials:% Cellulose 25%	Asbestos Type: % None Detected ND
Layer 2 of 2	Description: Brown brittle mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND

Lab ID: 19016893 Client Sample #: 25842.000-0015

Location: N-A

Layer 1 of 3	Description: Beige fibrous material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials:% Cellulose 50%	Asbestos Type: % None Detected ND
---------------------	--	---	--	--

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 02/20/2019

Date: 02/20/2019


 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: PBS Environmental - Portland
 Address: 4412 SW Corbett Ave.
 Portland, OR 97239

Batch #: 1903221.00

Client Project #: 25842.000 Phase 0001

Date Received: 2/20/2019

Samples Received: 8

Samples Analyzed: 8

Method: EPA/600/R-93/116
 & EPA/600/M4-82-020

Attention: Mr. Alex Johnson

Project Location: N-A

Layer 2 of 3	Description: Brown brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	None Detected ND	None Detected ND
Layer 3 of 3	Description: Trace tan wooden compressed fibrous material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Wood flakes	Wood fibers 12%	None Detected ND

Lab ID: 19016894 Client Sample #: 25842.000-0017

Location: N-A

Layer 1 of 3	Description: Tan wooden compressed fibrous material with paint	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Paint, Wood flakes	Wood fibers 86%	None Detected ND
Layer 2 of 3	Description: Brown brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	None Detected ND	None Detected ND
Layer 3 of 3	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler	Cellulose 10%	None Detected ND

Lab ID: 19016895 Client Sample #: 25842.000-0022

Location: N-A

Layer 1 of 2	Description: Tan wooden compressed fibrous material with paint	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Paint, Wood flakes	Wood fibers 93%	None Detected ND
Layer 2 of 2	Description: Brown brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	None Detected ND	None Detected ND

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 02/20/2019
Reviewed by: Matt Macfarlane **Date:** 02/20/2019 *[Signature]*
 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: PBS Environmental - Portland
 Address: 4412 SW Corbett Ave.
 Portland, OR 97239

Batch #: 1903221.00
 Client Project #: 25842.000 Phase 0001
 Date Received: 2/20/2019
 Samples Received: 8
 Samples Analyzed: 8
 Method: EPA/600/R-93/116
 & EPA/600/M4-82-020

Attention: Mr. Alex Johnson
 Project Location: N-A

Lab ID: 19016896 Client Sample #: 25842.000-0028

Location: N-A

Layer 1 of 2	Description: Tan tile			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Binder/Filler, Calcareous particles, Mineral grains	None Detected	ND	Chrysotile 6%
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Mastic/Binder	Wollastonite	2%	None Detected ND

Lab ID: 19016897 Client Sample #: 25842.000-0030

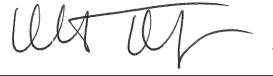
Location: N-A

Layer 1 of 2	Description: Tan compressed fibrous material with white coating			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose	65%	None Detected ND
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Mastic/Binder	Wollastonite	2%	None Detected ND
		Talc fibers	2%	

Lab ID: 19016898 Client Sample #: 25842.000-0032

Location: N-A

Layer 1 of 2	Description: Tan wooden compressed fibrous material with white paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Binder/Filler, Paint, Wood flakes	Wood fibers	70%	None Detected ND
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials: %		Asbestos Type: %
	Mastic/Binder	None Detected	ND	None Detected ND

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 02/20/2019
Reviewed by: Matt Macfarlane **Date:** 02/20/2019 
 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Portland
Address 4412 SW Corbett Ave.
 Portland, OR 97239
Project Manager Mr. Alex Johnson
Phone (503) 248-1939

NVL Batch Number **1903221.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 2/22/2019 **Time** 10:35 AM
Email alex.johnson@pbsusa.com
Fax (503) 248-0223

Project Name/Number: 25842.000 Phase 0001
Project Location: N-A

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 8 **Rush Samples** _____

	Lab ID	Sample ID	Description	A/R
1	19016891	25842.000-0009		A
2	19016892	25842.000-0011		A
3	19016893	25842.000-0015		A
4	19016894	25842.000-0017		A
5	19016895	25842.000-0022		A
6	19016896	25842.000-0028		A
7	19016897	25842.000-0030		A
8	19016898	25842.000-0032		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	ups				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	2/20/19	1035
Analyzed by	Alla Prsyazhnyuk		NVL	2/20/19	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 2/20/2019
 Time: 11:12 AM
 Entered By: Soumeya Benzina



1903221

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: February 19, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name

[Signature] 2/19/19 1445
Authorized Signature Date Time

RECEIVER

Date Received: 2/20/19

Company: NVL Labs. Inc.
Address: 4708 Aurora Ave. North
Seattle, WA 98103
(206)547-0100

[Signature]
Name

[Signature] 2/20 1085 vps
Authorized Signature Date Time

Sender's ID No.	Brief Description	Receiver's ID No.
25842.000-0009	_____	_____
25842.000-0011	_____	_____
25842.000-0015	_____	_____
25842.000-0017	_____	_____
25842.000-0022	_____	_____
25842.000-0028	_____	_____
25842.000-0030	_____	_____
25842.000-0032	_____	_____

Please analyze the enclosed 8 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: 48 Hour

SPECIAL INSTRUCTIONS:

[Signature]



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
http://www.labcorpdx.net

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 191072R01
Report Date: 02/27/2019

Job Number: 191072

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID:	25842.000-0021	Sample ID:	S1	Date Analyzed:	02/27/2019	
Client Sample Description:				Analyst:	Joseph Kulm	
Asbestos Mineral Fibers	Layer	Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
Homogeneous						
fine compact powder, gray	100 %	0.33 %	-	-		0.33 %
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	-	-	-	-	99.67 %

Comments: Gravimetric reduction performed on sample. GRR value is 0.334

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:
1% asbestos: >0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

Reviewed by:

Joseph Kulm
 X **Joseph Kulm**
 Analyst



191072

LabCor Portland, Inc.

PBS Request for Extended/ Additional Analyses

Please use this form for samples that require additional analysis. This should only be used for samples LabCor already has received and reported.

Primary Contact: Alex Johnson	Project Manager: James Mastanduno
(person requesting additional analysis)	Contact Project Manager?: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

LabCor Report No.: 1 9 0 9 8 3	PBS Project #: 2 5 8 4 2 0 0 0	Ph. #: 0 0 0 1
---------------------------------------	---------------------------------------	-----------------------

Client Sample Numbers to be Analyzed:

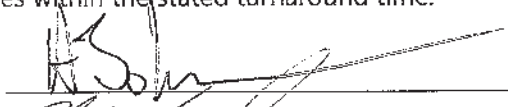
Sample Number	Layer (if applicable)
- 0 0 2 1	
-	
-	
-	
-	
-	

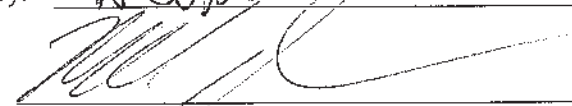

Select One:

Select One:

		Turnaround	Price
<input type="checkbox"/>	Composite Analysis	Same Day	NA
<input checked="" type="checkbox"/>	Gravimetric/ Composite 400 Point Count	<input type="radio"/> 24 hours <input checked="" type="radio"/> 2 days <input type="radio"/> 3 days <input type="radio"/> 5 days	\$105.00 \$90.00 \$80.00 \$60.00
<input type="checkbox"/>	400 Point Count	<input type="radio"/> 4 hours <input type="radio"/> 8 hours <input type="radio"/> 24 hours <input type="radio"/> 2 days <input type="radio"/> 3 days	\$85.00 \$75.00 \$55.00 \$40.00 \$38.00

Turnaround times begin only when a Lab/Cor PLM analyst approves this request by initialing below and returns the form to the chain of custody contact. By initialing and dating below Lab/Cor accepts the analysis request and will provide the client with the approved analyses within the stated turnaround time.

Request Authorized by:  Date Requested: 2/25/2019

Approved Signature:  Date Approved: 2/25/19 9:35AM
 (lab use only) 

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25842.000-0036	Built-up Roofing (01)	Entryway eave roof; built-up roofing		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	coating, silver	No Asbestos Detected	
	Layer 2	flexible material, off-white	No Asbestos Detected	
	Layer 3	coating, silver, with mastic, black	4% Chrysotile	
	Layer 4	fibrous tar, black/brown, with tar, black	45% Chrysotile	
	Layer 5	fibrous tar, black/brown, with tar, black	45% Chrysotile	
	Layer 6	fibrous tar, black/brown, with tar, black	45% Chrysotile	
	Layer 7	fibrous tar, black/brown, with tar, black	45% Chrysotile	
25842.000-0037	Built-up Roofing (02)	Curbing; around office HVAC unit, built-up roofing		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	coating, silver	No Asbestos Detected	
	Layer 2	fibrous tar, black/brown	No Asbestos Detected	
	Layer 3	fibrous tar, black/gray	No Asbestos Detected	
	Layer 4	foam, off-white	No Asbestos Detected	
25842.000-0038	Cement Asbestos Board (01)	Gym roof; cement asbestos board roof panels and tar paper		Lab Cor
	Layer:	Description:	Analysis:	
	Layer 1	hard compact material, gray, with coating, off-white	18% Chrysotile	
	Layer 2	compressed fibers, brown/black	No Asbestos Detected	



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
<http://www.labcorpdx.net>

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 191624R01
Report Date: 03/27/2019

Job Number: 191624

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

Client Sample ID: 25842.000-0036

Sample ID: S1

Date Analyzed: 03/27/2019

Client Sample Description:

Analyst: Tim Cammann

Asbestos Mineral Fibers

Layer	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
Layer 01 coating, silver	7 %	-	-	-	NAD
Layer 02 flexible material, off-	15 %	-	-	-	NAD
Layer 03 coating, silver, with mastic, black	15 %	4 %	-	-	4 %
Layer 04 fibrous tar, black/brown, with tar, black	15 %	45 %	-	-	45 %
Layer 05 fibrous tar, black/brown, with tar, black	15 %	45 %	-	-	45 %
Layer 06 fibrous tar, black/brown, with tar, black	15 %	45 %	-	-	45 %
Layer 07 fibrous tar, black/brown, with tar, black	18 %	45 %	-	-	45 %

Other Fibers

Layer	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	8 %	-	-	-	92 %
Layer 02	-	-	-	-	-	100 %
Layer 03	-	2 %	-	-	-	94 %
Layer 04	-	10 %	-	-	-	45 %
Layer 05	-	10 %	-	-	-	45 %
Layer 06	-	10 %	-	-	-	45 %
Layer 07	-	10 %	-	-	-	45 %



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
<http://www.labcorpdx.net>

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 191624R01
Report Date: 03/27/2019

Job Number: 191624

P.O. No: n/a

Project Name:

Project Number: 25842.000 Phase 0001

Project Notes:

<u>Client Sample ID:</u>	25842.000-0037		<u>Sample ID:</u>	S2		<u>Date Analyzed:</u>	03/27/2019		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							Percent Asbestos:
Layer 01	coating, silver	10 %	-	-	-							NAD
Layer 02	fibrous tar, black/brown	40 %	-	-	-							NAD
Layer 03	fibrous tar, black/gray	20 %	-	-	-							NAD
Layer 04	foam, off-white	30 %	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
Layer 01	-	6 %	-	Trace	-	-	-	-	-	-	-	94 %
Layer 02	Trace	25 %	-	Trace	-	-	-	-	-	-	-	75 %
Layer 03	-	98 %	-	-	-	-	-	-	-	-	-	2 %
Layer 04	-	-	-	-	-	-	-	-	-	-	-	100 %

<u>Client Sample ID:</u>	25842.000-0038		<u>Sample ID:</u>	S3		<u>Date Analyzed:</u>	03/27/2019		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							Percent Asbestos:
Layer 01	hard compact material, gray, with coating, off-white	50 %	18 %	-	-							18 %
Layer 02	compressed fibers, brown/black	50 %	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
Layer 01	-	Trace	-	-	-	-	-	-	-	-	-	82 %
Layer 02	-	100 %	-	-	-	-	-	-	-	-	-	0 %



Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A
Portland, OR 97239

BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055
http://www.labcorpdx.net

Asbestos and Environmental Analysis

Client: PBS Engineering and Environmental
4412 SW Corbett Avenue
Portland, OR 97239

Report Number: 191624R01
Report Date: 03/27/2019

Job Number: 191624

P.O. No: n/a

Project Name:

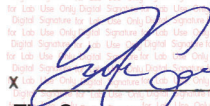
Project Number: 25842.000 Phase 0001

Project Notes:

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:
1% asbestos: >0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

Reviewed by:


 X **Tim Cammann**
 Analyst



191624

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: March 25, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name
[Signature] Date 3/25/19 Time 1600
Authorized Signature Date Time

RECEIVER

Date Received: 3-25-19

Company: Lab Cor
Address: 4321 SW Corbett Ave Ste A
Portland, OR 97239
503-224-5055

William Lambert
Name
[Signature] Date 3-25 Time 4:00 PM
Authorized Signature Date Time

Sender's ID No.	Brief Description	Receiver's ID No.
25842.000-0036	_____	_____
25842.000-0037	_____	_____
25842.000-0038	_____	_____

Please analyze the enclosed 3 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: _____ AM/PM _____ Date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: 48 Hour

SPECIAL INSTRUCTIONS:
[Blank area with signature 'SM' in the bottom right corner]

<u>Code</u>	<u>Material</u>	<u>Analysis</u>	<u>Location</u>	<u>Lab</u>
PAINT				
LB25842.000-1001	Paint	710 ppm	Boiler room; wall, CMU, white, good condition	R.J. Lee Group
LB25842.000-1002	Paint	<200 ppm	Office main hall; wall, gypsum, off-white, good condition	R.J. Lee Group
LB25842.000-1003	Paint	1,200 ppm	Main hall custodial room; door frame, wood, tan, fair condition	R.J. Lee Group
LB25842.000-1004	Paint	800 ppm	Stage storage room; door frame, wood, white, fair condition	R.J. Lee Group

LABORATORY REPORT

PBS Engineering & Environmental
4412 Southwest Corbett Ave.
Portland, OR 97239

Attn: Alex Johnson
Phone: 503-248-1939

Email: alex.johnson@pbsusa.com

RJ Lee Group Job No.: PA200220190009
Samples Received: February 20, 2019
Report Date: February 22, 2019
Client Project: 25842.000 Phase 0001
Purchase Order No.: N/A
Matrix: Solid
Prep/Analysis: EPA 3050B / EPA 7000B-Paint

Client Sample ID	RJ Lee Group ID	Sampling Date	Analyte	Sample Concentration			Minimum Reporting Limit			
				Weight Percent (%)	Parts per Million (PPM) - mg/kg	Parts per Million (PPM) - mg/kg	Weight Percent (%)	Parts per Million (PPM) - mg/kg	Analysis Date	Q
LB25842.000-1001	PA200220190009-001	NP	Lead	0.071	710	140	0.014	140	2/22/2019	AN
LB25842.000-1002	PA200220190009-002	NP	Lead	< 0.020	< 200	200	0.020	200	2/22/2019	AN
LB25842.000-1003	PA200220190009-003	NP	Lead	0.12	1200	200	0.020	200	2/22/2019	AN
LB25842.000-1004	PA200220190009-004	NP	Lead	0.080	800	120	0.012	120	2/22/2019	AN

Comments:

Report Qualifiers (Q):

P : PA-DEP Accredited (PA DEP Lab ID 02-00396, NELAP)
N : NY ELAP Accredited (NY ELAP Lab Code 10884)
C : CA ELAP Accredited (CA ELAP Certificate 1970)
A : AIHA-LAP, LLC Accredited (Lab ID 100364)

— : Test (analyte-matrix-preparation-analysis) is performed under RJLG's General Quality System requirements and is not part of any of the above scopes of accreditations

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of thirty (30) days before discarding. A shipping and handling fee will be assessed for the return of any samples. This laboratory operates in accord with ISO 17025:2005 guidelines, and holds a limited scope of accreditations under different accrediting agencies; refer to <https://www.rjlg.com/about-us/accreditations/> for more information and current status. Unless it is specifically stated otherwise (under the Q column using the appropriate accrediting agency qualifier(s)) the work contained in this report is performed under RJLG's General Quality System requirements and is not part of any scope of accreditations. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or to the sample(s) as received by the laboratory. Any reproduction of this document must be in full for the report to be valid.

Unless otherwise noted (either in the comments section of the report and/or with the appropriate qualifiers under the report qualifiers (Q) column) the following apply: (a) Samples were received in good condition, (b) All QC samples are within acceptable established limits, (c) All samples designated as NELAP meet the requirements of the NELAC standard; if not applicable qualifiers will be used to designate the non-compliance and (d) Results have not been blank corrected. Quality Control data is available upon request.

E = Value above highest calibration standard
J = Value below lowest calibration standard but above MDL (Method Detection Limit)
L = LCS (Laboratory Control Standard)/SRM (Standard Reference Material) recovery outside accepted recovery limits
H = Holding times for preparation or analysis exceeded

B = Analyte detected in the associated Method Blank
S = Spike Recovery outside accepted limits
R = RPD (relative percent difference) outside accepted limits
D = RL (reporting limit verification) outside accepted limits
NP = Not Provided



Philip Grindle
Laboratory Supervisor



PA 200220190009

TRANSMITTAL AND CHAIN OF CUSTODY FOR LEAD BULK SAMPLES

Project No.: 25842.000 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: February 19, 2019

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name

[Signature]
Authorized Signature

2/19/19
Date

RECEIVER

Date Received: 022019 3⁰⁰

Company: R.J. Lee Group
Address: 350 Hochberg Road
Monroeville, PA 15146
724-325-1776

[Signature]
Name

[Signature]
Authorized Signature

022019
Date

Sender's ID No.

Brief Description

Receiver's ID No.

LB25842.000-1001
LB25842.000-1002
LB25842.000-1003
LB25842.000-1004

ANALYSIS REQUESTED:

- LEAD:**
- Paint
 - Wipe
 - Soil/Misc.
 - Air
 - TCLP

Please analyze the enclosed 4 sample(s) for LEAD content using Atomic Absorption Method. PBS requests prior notification if samples will be disposed.

Please fax and mail the results to the above address.

TURNAROUND DESIRED:

48 Hour

SPECIAL INSTRUCTIONS:

THIS IS TO CERTIFY THAT

JAMES MASTANDUNO

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

**ASBESTOS INSPECTOR / MANAGEMENT
PLANNER REFRESHER**

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 01/04/2019
Course Location: Portland, OR
Certificate: IMR-19-4993B



4-Hour AHERA Refresher Training

Expiration Date: 01/04/2020

For verification of the authenticity of this
certificate contact:
PBS Environmental
4412 SW Corbett Avenue
Portland, OR 97239
(503) 248-1939

A handwritten signature in black ink that reads "Gregory M. Baker".

Greg Baker, Instructor

THIS IS TO CERTIFY THAT

SEAN GRABINER

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

**ASBESTOS INSPECTOR / MANAGEMENT
PLANNER REFRESHER**

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 02/13/2023

Course Location: Online

Certificate: IMR-23-4508B



CCB #SRA0615 4-Hr Training

AHERA is the Asbestos Hazard Emergency Response Act enacting Title II of Toxic Substance Control Act (TSCA)

Expiration Date: 02/13/2024

For verification of the authenticity of this certificate contact:
PBS Engineering and Environmental Inc.
4412 S Corbett Avenue
Portland, OR 97239
503.248.1939

A handwritten signature in black ink that reads "Andy Fridley".

Andy Fridley, Instructor

THIS IS TO CERTIFY THAT
TAYLOR COOK
HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE
for
ASBESTOS INSPECTOR INITIAL COURSE

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 7/11/2022 - 7/13/2022

Course Location: Portland, OR

Certificate: IN-22-0497C



CCB #SRA0614 24-Hr Training

24-Hour AHERA Inspector Training; AHERA is the Asbestos Hazard Emergency Response Act enacting Title II of Toxic Substance Control Act (TSCA)

Expiration Date: 07/13/2023

For verification of the authenticity of this certificate contact:
PBS Engineering and Environmental Inc.

A handwritten signature in black ink, which appears to read "Andy Fridley", is written over a horizontal line.

Andy Fridley, Instructor

Reinspection Report
2022



Dufur School
Building DS-00

General Information
Inspection Summary
Hazard Priority
Response Actions
Asbestos Materials Assessments
Asbestos Bulk Sample Inventory

GENERAL INFORMATION

The reinspection process under the AHERA rules states that a school building must be reinspected by an accredited inspector at least every three years. The results of the reinspection are reported in these documents.

Dufur School
Building DS-00
802 Northeast 5th Street
Dufur, OR 97021-3034

INSPECTION DATES

	Original
12/13/2022	Current Reinspection
12/13/2025	Next Reinspection

SIGNATURES

Inspector

Management Planner

Signature

Expiration Date

Signature

Expiration Date

Taylor Cook
Accreditation #MP-23-0497C

Sean Grabiner
Accreditation #IMR-23-4508B

INSPECTION SUMMARY

REINSPECTION SUMMARY

The 2022 Asbestos Hazard Emergency Response Act (AHERA) 3-Year Asbestos Reinspection for Dufur School, located at 802 NE Fifth Street in Dufur Oregon, was completed on December 13, 2022 in accordance with the requirements of 40 CFR, Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice.

Asbestos-containing pipe insulation and associated hard fittings exist in the tunnels and presumed to exist in inaccessible wall and ceiling cavities throughout the school. At the time of PBS' inspection, the tunnels were inaccessible due to flooding. It is presumed that pipe insulation throughout the tunnels has suffered water damage. Care should be used when moving materials around asbestos-containing pipe insulation. When accessing the tunnel, appropriate personal protective equipment should be worn. Asbestos-containing pipe insulation was previously noted in the stage mechanical lofts and the boiler room but was abated in 2019.

- Asbestos-containing textured ceiling material remains in the music/band room. The material was observed in good condition, with some minor cracking and water staining. The asbestos-containing textured ceiling material previously identified in the industrial arts shop has been abated in conjunction with the demolition of the building.
- Asbestos-containing 9" x 9" vinyl floor tile and associated mastic remains in the main corridor and in classrooms. The floor tile was observed in good condition with only minor localized impact damage in some areas. There is a heavy coat of wax sealing the floor tile. Floor tile under carpet in the office was abated in June 2019.
- Asbestos-containing joint compound associated with gypsum wall assemblies was identified during the 2019 survey. Gravimetric reduction followed by point count analysis was performed on the material, which identifies the gypsum wall systems as containing less than 1% (<1%) asbestos. Less than 1% asbestos materials are not regulated under AHERA. However, this material is included in the asbestos-containing materials section of this report for the sake of hazard communication. The material was observed to be in good condition.
- Asbestos-containing vinyl wall tile and mastic was identified during PBS's asbestos inspection in support of 2019 bond improvements. Wall tiles were observed in isolated areas around plumbing fixtures in good condition. Tiles are non-friable unless broken.
- Presumed 12" x 12" black vinyl floor tile and mastic in the upper gymnasium and original construction classrooms was found to be in good condition. Tiles are non-friable unless broken.

Other non-friable suspect asbestos-containing materials that may exist at the school include sheet floor coverings, rubber covebase, carpet mastics, and fire doors. Not all of these non-friable materials have been sampled but are presumed to contain asbestos. Sampling of suspect materials should be performed prior to any impacts by renovation activities.

All of these asbestos-containing building materials should continue to be maintained under the school's AHERA Management Plan.

HAZARD PRIORITY

Known or suspected asbestos-containing building materials are listed below in order of hazard priority. The priorities are established by the Accredited Inspector(s) and Accredited Management Planner(s), and are based on the assessments. A material may be listed more than once if its location varies and if the assessment criteria also dramatically changes.

Concern	Material	HM	Location	Damage
Moderate Concern	Absestos Pipe Insulation	01	Tunnels, concealed in walls, attics, and other inaccessible locations	Water
Moderate Concern	Joint Compound with Gypsum Wallboard	04	Original construction	
Moderate Concern	Textured Ceiling Material	02	Original construction; classroom 13	
Moderate Concern	9"x9" Vinyl Floor Tile and Mastic	03	Original construction; throughout surveyed areas	Impact
Moderate to Low Concern	Fire Door Insulation	06	No known fire doors. Concealed asbestos-containing fire door cores may exist.	
Moderate to Low Concern	Sheet Floor Covering	07	Original construction; classrooms, on counter near sink	
Moderate to Low Concern	Vinyl Wall Tile	05	Original construction; around plumbing fixtures	
Moderate to Low Concern	12"x12" Black Vinyl Floor Tile	08	Upper gymnasium and classrooms of old construction areas	
Low Concern	4" Covebase	09	Newly renovated areas, office, SE classroom	
Low Concern	Carpet Mastic	10	Newly renovated areas, office, SE classroom	

RESPONSE ACTIONS

Based on material assessments made during the inspection recommended response actions are listed below. These may include removal, encapsulation, enclosure, repair, operations and maintenance, that protects human health and the environment from friable asbestos-containing building materials.

Material	Functional Space	Response Action
Joint Compound with Gypsum Wallboard	Original construction	Maintain & monitor material – patch areas of minor impact damage as they are discovered, Continue O&M
4" Covebase	Newly renovated areas, office, SE classroom	Continue O&M
Carpet Mastic	Newly renovated areas, office, SE classroom	Continue O&M
Fire Door Insulation	No known fire doors. Concealed asbestos-containing fire door cores may exist.	Continue O&M
Textured Ceiling Material	Original construction; classroom 13	Maintain & monitor material
Sheet Floor Covering	Original construction; classrooms, on counter near sink	Continue O&M
9"x9" Vinyl Floor Tile and Mastic	Original construction; throughout surveyed areas	Continue O&M, Enclose material as damage is noted
Vinyl Wall Tile	Original construction; around plumbing fixtures	Continue O&M
Absestos Pipe Insulation	Tunnels, concealed in walls, attics, and other inaccessible locations	Maintain & monitor material – Enclose material if damage is discovered
12"x12" Black Vinyl Floor Tile	Upper gymnasium and classrooms of old construction areas	Continue O&M

ASBESTOS MATERIAL ASSESSMENTS

PHYSICAL ASSESSMENT DATA

Material Description	9"x9" Vinyl Floor Tile and Mastic		Material Type	MISC
Homogeneous Material	03	Quantity	17000 sf	
Functional Space	Original construction; throughout surveyed areas			
Hazard Assessment	Moderate Concern			
Material Classification	Miscellaneous Material - Damaged or significantly damaged friable ACBM			
Current Damage	Moderate to None	Damage Quantity	0	0.00%
Undamaged Area	Fair to Good	Friability	Low	
Damage Potential	Moderate to Low	Accessibility	Moderate	
Damage Type	Impact			
Damage Cause	Age			

Inspector Comments & Discussion:

AHERA Classification - Non-friable ACBM [02/09/2023]

Management Planner Response Actions:

Continue O&M, Enclose material as damage is noted

PHYSICAL ASSESSMENT DATA

Material Description	Absestos Pipe Insulation		Material Type TSI	
Homogeneous Material	01	Quantity		
Functional Space	Tunnels, concealed in walls, attics, and other inaccessible locations			
Hazard Assessment	Moderate Concern			
Material Classification	TSI - ACBM with potential for damage			
Current Damage	None	Damage Quantity	0	0.00%
Undamaged Area	Good	Friability	Moderate	
Damage Potential	Moderate	Accessibility	Moderate	
Damage Type	Water			
Damage Cause				

Inspector Comments & Discussion:

Material not observed but known to exist in tunnels. Tunnels flooded at time of inspection. Material presumed to be damaged but not visually confirmed.

Management Planner Response Actions:

Maintain & monitor material – Enclose material if damage is discovered

PHYSICAL ASSESSMENT DATA

Material Description	Joint Compound with Gypsum Wallboard		Material Type MISC	
Homogeneous Material	04	Quantity		
Functional Space	Original construction			
Hazard Assessment	Moderate Concern			
Material Classification	Miscellaneous Material - Damaged or significantly damaged friable ACBM			
Current Damage	Moderate to None	Damage Quantity	0	0.00%
Undamaged Area	Good	Friability	Moderate to Low	
Damage Potential	Moderate	Accessibility	Moderate	
Damage Type				
Damage Cause				

Inspector Comments & Discussion:

Material contains less than one percent asbestos.

Management Planner Response Actions:

Maintain & monitor material – patch areas of minor impact damage as they are discovered, Continue O&M

PHYSICAL ASSESSMENT DATA

Material Description	Textured Ceiling Material		Material Type	SURF	
Homogeneous Material	02		Quantity	1608 sf	
Functional Space	Original construction; classroom 13				
Hazard Assessment	Moderate Concern				
Material Classification	Surfacing Material - ACBM with potential for damage				
Current Damage	None	Damage Quantity	0	0.00%	
Undamaged Area	Good	Friability	Moderate		
Damage Potential	Moderate	Accessibility	Moderate to Low		
Damage Type					
Damage Cause					

Inspector Comments & Discussion:

Management Planner Response Actions:

Maintain & monitor material

PHYSICAL ASSESSMENT DATA

Material Description	Fire Door Insulation	Material Type	MISC
Homogeneous Material	06	Quantity	
Functional Space	No known fire doors. Concealed asbestos-containing fire door cores may exist.		
Hazard Assessment	Moderate to Low Concern		
Material Classification	Miscellaneous Material - ACBM with potential for damage		
Current Damage	None	Damage Quantity	0 0.00%
Undamaged Area	Good	Friability	Moderate to Low
Damage Potential	Low	Accessibility	Moderate to Low
Damage Type			
Damage Cause			

Inspector Comments & Discussion:

Material not observed.

Management Planner Response Actions:

Continue O&M

PHYSICAL ASSESSMENT DATA

Material Description	12"x12" Black Vinyl Floor Tile	Material Type	MISC
Homogeneous Material	08	Quantity	
Functional Space	Upper gymnasium and classrooms of old construction areas		
Hazard Assessment	Moderate to Low Concern		
Material Classification	Miscellaneous Material - ACBM with potential for damage		
Current Damage	None	Damage Quantity	0 0.00%
Undamaged Area	Good	Friability	Low
Damage Potential	Moderate to Low	Accessibility	Moderate to Low
Damage Type			
Damage Cause			

Inspector Comments & Discussion:

Management Planner Response Actions:

Continue O&M

PHYSICAL ASSESSMENT DATA

Material Description	Sheet Floor Covering	Material Type	MISC
Homogeneous Material	07	Quantity	
Functional Space	Original construction; classrooms, on counter near sink		
Hazard Assessment	Moderate to Low Concern		
Material Classification	Miscellaneous Material - ACBM with potential for damage		
Current Damage	None	Damage Quantity	0 0.00%
Undamaged Area	Good	Friability	Moderate
Damage Potential	Low	Accessibility	Low
Damage Type			
Damage Cause			

Inspector Comments & Discussion:

Management Planner Response Actions:

Continue O&M

PHYSICAL ASSESSMENT DATA

Material Description	Vinyl Wall Tile	Material Type	MISC
Homogeneous Material	05	Quantity	
Functional Space	Original construction; around plumbing fixtures		
Hazard Assessment	Moderate to Low Concern		
Material Classification	Miscellaneous Material - ACBM with potential for damage		
Current Damage	None	Damage Quantity	0 0.00%
Undamaged Area	Good	Friability	Low
Damage Potential	Moderate to Low	Accessibility	Moderate to Low
Damage Type			
Damage Cause			

Inspector Comments & Discussion:

This material was abated in the SE classroom but may remain in concealed areas.

Management Planner Response Actions:

Continue O&M

PHYSICAL ASSESSMENT DATA

Material Description	4" Covebase	Material Type	MISC
Homogeneous Material	09	Quantity	
Functional Space	Newly renovated areas, office, SE classroom		
Hazard Assessment	Low Concern		
Material Classification	Non-friable suspected ACBM		
Current Damage	None	Damage Quantity	0 0.00%
Undamaged Area	Good	Friability	Low
Damage Potential	Low	Accessibility	Low
Damage Type			
Damage Cause			

Inspector Comments & Discussion:

Management Planner Response Actions:

Continue O&M

PHYSICAL ASSESSMENT DATA

Material Description	Carpet Mastic	Material Type	MISC
Homogeneous Material	10	Quantity	
Functional Space	Newly renovated areas, office, SE classroom		
Hazard Assessment	Low Concern		
Material Classification	Non-friable suspected ACBM		
Current Damage	None	Damage Quantity	0 0.00%
Undamaged Area	Good	Friability	Low
Damage Potential	Low	Accessibility	Low
Damage Type			
Damage Cause			

Inspector Comments & Discussion:

Management Planner Response Actions:

Continue O&M

ASBESTOS BULK SAMPLE INVENTORY

TAB 6

Recommended Response Actions

6.1.1 Material Summary

Known or suspected asbestos-containing building materials are listed below in order of hazard priority. The priorities are established by the accredited inspector(s) and accredited management planner(s). A material may be listed more than once if its location varies and if the assessment criteria also dramatically change.

	Homogeneous Material	Location	Preventative Measure	Response Action
1.	Pipe Insulation and Hard Fittings	Wall and Ceiling Spaces	Do not Disturb Establish O&M	Repair Damage Continue O&M
2.	Ceiling Texture	Classroom 113	Do not Disturb Establish O&M	Continue O&M
3.	9" x 9" Vinyl Floor Tile and Associated Black Mastic	Throughout Building	Do not Disturb Establish O&M	Continue O&M
4.	Tan Vinyl Wall Tile	Around Plumbing Fixtures Throughout Building	Do not Disturb Establish O&M	Continue O&M
5.	Gypsum Wallboard and Joint Compound	Throughout Building	Do not Disturb Establish O&M	Continue O&M

Costs of Preventative Measures are estimates that assume that the district will either utilize their own trained personnel or retain a qualified abatement contractor on a district wide contract. Consequently, associated costs such as air monitoring, contractor mobilization and engineering fees cannot be estimated and are not included.

6.2.1 Abatement Summary

Based on the previous material assessments, example abatement projects of specific areas have been defined by the Accredited Management Planner. Abatement costs have been determined for some materials as examples. The school may have other criteria that influence the order, scope and priority of abatement projects. This summary is a guide and not a mandate.

	Homogeneous Material	Location	Removal Cost
1.	Pipe Insulation and Hard Fittings	Wall and Ceiling Spaces	\$20/LF
2.	Ceiling Texture	Classroom 113	\$40/SF
3.	9" x 9" Vinyl Floor Tile and Associated Black Mastic	Throughout Building	\$6/SF
4.	Tan Vinyl Wall Tile	Around Plumbing Fixtures Throughout Building	\$6/SF
5.	Gypsum Wallboard and Joint Compound	Throughout Building	\$4/SF

LF – Linear foot

SF – Square foot

Costs of Preventative Measures are estimates that assume that the district will either utilize their own trained personnel or retain a qualified abatement contractor on a district wide contract. Consequently, associated costs such as air monitoring, contractor mobilization and engineering fees cannot be estimated and are not included.

6.3.1 General Abatement Options

There are four general approaches to asbestos abatement from which the school may choose. The options are Removal, Encapsulation, Enclosure, Operations and Maintenance (O&M) Program. See the definitions below.

Typically, one or a combination of several different options are selected. The health risks associated with asbestos are caused by inhalation of airborne asbestos fibers. Exposure to asbestos fibers has been linked to asbestosis, lung cancer, and other forms of cancer. Cigarette smoking in combination with the exposure to asbestos fibers dramatically increases the likelihood of contracting an asbestos related disease. The four general abatement options attempt to control or minimize airborne asbestos fibers, and are each successful to varying degrees. When used correctly and appropriately, the methods are designed to protect human health and the environment.

In choosing among these abatement options, the school should carefully consider the following:

- Unless asbestos containing materials are removed, there is always the possibility of future fiber release. The action of removing an asbestos material will create a high possibility of fiber release. Consequently, strict controls must be exercised.
- Even if asbestos is removed from part of the building (all exposed locations, for example), it is important to remember that it may remain in other areas (in chases, behind walls and in ceilings, perhaps). In the same way, if one type of asbestos is removed (pipe insulation, for example), many other types of asbestos containing materials may remain in the building.
- Encapsulation of friable acoustical treatment or fireproofing on large surfaces can cause significant fiber release when the first coat of encapsulant is applied. For this reason, surface encapsulation projects require most of the same protections as removal, often making them almost as costly as removal. Much like a painted ceiling, an encapsulated surface may require re encapsulation after five to ten years.
- Because partial removal, encapsulation, and enclosure do not remove all the fiber sources, establishing an Operations and Maintenance Program is an essential part of these alternatives. The Operations and Maintenance Program includes such elements as employee education and training, posted warnings, and regular inspections.

COST CONSIDERATIONS

This report generally considers removal as the recommended option because it represents the largest initial expenditure and most prudent building owners elect to either remove a material immediately or over a phased program. The cost estimates provided anticipate mid-range bids in 2011 dollars. Many variables can affect the cost which have no standard cost guidelines and are thus not included in the cost estimates for this report. Contractor insurance bonding requirements, owner requested change orders, consulting, and engineering fees for providing bid documents, pre bid and abatement conferences, site inspections, and project management can vary from 8 to 15 percent of the abatement costs. Smaller projects have a relatively higher percentage fee.

Other variable costs include relocating building occupants, rescheduling activities, and the time of year for abatement. With schools, most abatement work is scheduled for the summer vacation. This places a peak demand on qualified abatement contractors. It is advisable to plan ahead if the work must be conducted during the summer and cannot be scheduled for evening hours during the school year. An Owner should bid a project in March or April for work scheduled in June, July, or August. This approach allows qualified contractors ample time to plan for their work and anticipate their workload which may save the Owner some money and increase the quality of the work.

Every abatement option has associated cost implications including establishing an effective Operations and Maintenance Program. An O&M Program requires training of personnel, purchase of equipment and supplies, and manpower to implement the program, Unit prices for an O&M Program are provided in Section 2.0, Tab No. 8.

DEFINITIONS

Bridging Encapsulant

Intended to form a continuous membrane coating over the surface of the asbestos containing material. Some rough or porous surfaces are very difficult to cover completely, and encapsulant should always be tested for coverage and adhesion. Substrate should be tested to assure it will support the weight of the encapsulant.

Dry Removal

Asbestos containing materials are removed dry. This method usually releases large numbers of fibers in the work area and is not recommended but may be the only option if very high voltage electrical equipment is present. The local air control authority must be notified prior to the project and must approve the project scope and methods.

Encapsulation

Asbestos containing material is coated with material specifically formulated to prevent fiber release. Encapsulation requires that the material be maintained in good condition, through an Operations and Maintenance Program, and damage could cause future fiber release. Most encapsulants require re application about every five years. Encapsulated materials could be significantly more difficult to remove at a later date. See Penetrating Encapsulant and Bridging Encapsulant.

Enclosure

Asbestos containing material is separated from the general environment by permanent, durable, airtight barriers such as gypsum board walls, ceilings, etc., to protect the material from damage and prevent the release of fibers into the outside air. Covering pipe insulation with a PVC jacket or metal jackets is also an enclosure. This option requires that an Operations and Maintenance Program be established, since fibers could be released if the enclosure is damaged. Enclosure can be used in addition to encapsulation.

Full Isolation

The process of aerodynamically separating an area from all other adjacent areas of a building typically with layers of plastic sheeting and duct tape. The isolated area is under negative pressure through the use of a HEPA exhaust fan. Entry and exit are through a worker decontamination system.

HEPA Exhaust Fan

An exhaust fan unit that contains a High Efficiency Particulate Air (HEPA) filter. The filter is capable of filtering 99.97 percent of particles 0.3 microns or larger. The HEPA filter is typically protected by two or more pre filters.

Modified Isolation

Setting up a full isolation area without installing a full three stage worker decontamination system. Workers should wear protective clothing and respiratory protection. Decontamination typically utilizes a HEPA vacuum. This arrangement is also called Partial Isolation and a Mini Enclosure.

Operations and Maintenance

In areas where asbestos containing materials are present, or after an encapsulation or enclosure project is identified, warnings are posted, periodic inspections are made, and building users are instructed in the hazards of and proper care of asbestos containing materials. Access to areas containing free asbestos fibers is restricted to properly trained employees equipped with adequate respiratory protection and decontamination facilities, and measures are taken to prevent the spread of asbestos fibers to occupied areas of the building.

Penetrating Encapsulant

Designed to soak into the asbestos containing material and bond fibers together to prevent their release. Penetrating encapsulants should always be tested on the material to be encapsulated to see how well they penetrate and bond that specific material.

Preventative Measures

Methods taken to control potential fiber release prior to a material's eventual abatement. These methods generally involve repair, patching, debris clean up and labeling asbestos material. They can also include the setting of policies to minimize impact of a material, such as prohibiting the throwing of basketballs at an asbestos containing surfacing material on a gymnasium ceiling.

Removal

Under carefully controlled conditions, asbestos containing material is removed from the building, placed in sealed containers, and disposed of at an EPA approved burial site. Removal is the only option which assures that fibers will not be released in the future. See Wet Removal and Dry Removal.

Wet Removal

Asbestos containing material is wetted with a removal agent or water that contains a surfactant before it is handled to reduce fiber release.

Worker Decontamination System

A series of three chambers separated by airlocks providing entry and exit into a Full Isolation work area. The first chamber is a clean room where workers change into disposable clothing. The next area is a shower room where workers cleanse themselves after being in the contaminated isolated work area. The third chamber is an equipment room where workers remove their contaminated disposable clothing. Ideally, a separate system is installed for bag handling. The bag handling loadout system is where bags of debris are double bagged and removed for transportation to the waste site.

6.4.1 Recommended Response Actions

Much confusion can arise from defining activities that may be preventative measures, fiber release episodes, or Operations and Maintenance (O&M) activity. The confusion stems from mixing terminology with the AHERA requirements and state requirements. This section will unscramble a perplexing topic.

The first term is "*Preventative Measure*." An AHERA term that describes actions taken to reduce the likelihood of a material becoming damaged. A Preventative Measure can be active, such as repairing pipe insulation, or more passive, such as forming a policy not to throw basketballs at the asbestos-containing gym ceiling. Preventative Measures are the first line of a school defense to prevent asbestos contamination. Active Preventative Measures must be performed by an individual with at least 16-Hour O&M (Small-Scale Worker) Training. When no material is being removed, no quantity limitations exist. One commonly recommended Preventative Measure is the removal of debris. It is better to interpret though that asbestos debris is a Fiber Release Episode and is consequently subject to different conditions.

The second term is "*Fiber Release Episode*." This AHERA term is defined as the unintentional, unplanned disturbance of asbestos materials. Think of a Fiber Release Episode as an accident. If the accident involves 3 square feet (sq. ft.) or 3 linear feet (lin. ft.) or MORE, a whole crew of accredited people must be involved. A Project Designer must design the clean-up procedures. Full-Scale Workers must conduct the cleanup, and a Full-Scale Worker Supervisor (Competent Person) must be responsible for the worker's actions. Since debris (loose fragments of asbestos materials) is best viewed as a being a Fiber Release Episode, a school district should respond accordingly.

The third term is "*Small-Scale, Short-Duration Activities*." AHERA and the L&I essentially use the same terminology. These are activities of removing small quantities of asbestos material to facilitate a maintenance need. Examples may include removing asbestos packing from leaking valves in order to replace the valves or removing an asbestos-containing ceiling tile to adjust a mechanical control box. Remember that the purpose of the activity is not to remove an asbestos containing material for its own sake, but to remove an asbestos containing material in order to perform a necessary maintenance function. AHERA does not specifically mention a maximum allowed quantity, but the intent is clear that the quantities remain small. It offers suggestions from the ambiguous all the way down to the amount of material that fits in one glove bag, but no upward limitation is specifically mandated.

It is prudent for building owners to adopt a policy for their employees to follow in conducting Operations and Maintenance (small-scale, short duration) work. Limiting their removal to 3 sq. ft. or 3 lin. ft. allows small scale workers to clean up their mess if they fail to do the job correctly and create a "Fiber Release Episode" (an accident). A Fiber Release Episode could occur if they drop an open glove bag or a mini-enclosure collapses. Management could face pressure from employee unions and individual workers for the highest level of training possible. Consequently, it is also strongly recommended that maintenance workers receive the maximum training possible. Not so they can abate a building, but to ensure that the small quantities are removed carefully. To recap:

Terminology	Definition	Maximum Quantity	Training
Preventative Measure	Repair (not removal), policies.	No quantity limit	16-Hour trained worker recommended
Minor Fiber Release Episode	Accident involving fiber release, including debris discovered during survey.	3 Lin. Ft. or 3 Sq. Ft. or LESS	16-Hour trained worker minimum; Full-scale worker recommended
Major Fiber Release Episode	Accident involving fiber release, including debris discovered during survey.	3 Lin. Ft. or 3 Sq. Ft. or MORE	Accredited designer; Full-scale worker abatement supervisor
Small-Scale Short-Duration (Operation and Maintenance)	Project required by maintenance need. Intent of project must not solely be abatement.	40 Lin. Ft. or 80 Sq. Ft. AHERA sets a more conservative policy	16-Hour trained worker minimum; Full-scale worker recommended

New Terminology and parallel federal and state laws can create confusion in tackling a complex subject such as asbestos in buildings. This article has been reviewed by the EPA and is our combined effort to set the record straight.

6.5.1 A Note on Initial Cleaning

A note on initial cleaning: Initial cleaning is not considered to be necessary in these buildings as they are not implementing new management plans but replacing existing ones. Initial cleaning is assumed to have taken place during the implementation of the original management plans in the 1980s. The building inspector did not identify any conditions that would warrant additional initial cleaning.

TAB 7

Response Actions Selected

7.1.1 Selection Guidance

Prior to selecting Preventative Measures and Abatement Projects, the School should carefully review the information submitted. The decisions will be incorporated in the Management Plan, reviewed by the State Governor's designated person, and accessible to the general public. It is important that the school thoroughly understand the implications, advantages, disadvantages, and gravity of their decisions. PBS Engineering + Environmental is always available to address questions. Consulting with others such as the school legal counsel, architect or engineer, safety officer and school board members is advised. Obtaining another professional opinion is also recommended, if desired.

PREVENTATIVE MEASURES

Preventative Measures are the minimum action recommended by PBS Environmental for each located and assessed material to reasonably assure, as much as possible, that a safe building environment is created and/or maintained. The Summary List in Tabs No. 6 and No. 7 are prioritized from the highest concern to the lowest and contains condensed information. To gain a better understanding of each material assessment, it is advised that this report be reviewed in its entirety with particular attention paid to the following sections:

Material Assessments..... Tab No. 5

ABATEMENT PROJECTS

Abatement Projects of logical areas have been defined and prioritized from most concern to the least and generally consider removal only. The Abatement Summary List in Tab 6 contains condensed information. To gain a better understanding of each abatement project, it is advised that particular attention be paid to the following sections:

Assessments..... Tab No. 5

General Abatement Options Tab No. 6

SELECTION RATIONALE--PREVENTATIVE MEASURES

Preventative Measures are minimum actions recommended by professionals of an asbestos specialty firm with years of asbestos consulting experience. It may not be prudent to disagree and take lesser action, but it is understood that the recommendations are subjective and open to disagreement. Some reasons that could be cited by the school for disagreeing with recommended Preventative Measures include:

1. The Preventative Measure is overly conservative and lesser action can be taken that would satisfactorily protect human health and environment. (Describe the alternate action to be taken.)
2. The Preventative Measure is not necessary since the material is scheduled to be abated as soon as possible.

SELECTION RATIONALE--ABATEMENT PROJECTS

Once Preventative Measures have been enacted, it is assumed that materials can and will be safely maintained through an effective Operations and Maintenance Program until abatement. To schedule abatement projects, the building owner may use the list below as a guide. The schedule is a tool for decision making and not a mandate. It may be lengthened or shortened as desired by the school. Without other considerations such as planned renovation, change of occupancy, etc. Higher concern materials should be abated prior to moderate or lower concern materials. Phasing of abatement projects over a number of years is a common and prudent approach.

Material Category

Immediate Health Concern
High Concern
High to Moderate Concern
Moderate Concern
Moderate to Low Concern
Low Concern

Suggested Schedule

Remove as soon as possible
Abate within 2 years
Abate within 5 years
Abate within 10 years
Maintain indefinitely
Maintain indefinitely

Due to the subjective nature of defining and prioritizing abatement projects, the school may elect not to schedule the abatement recommendations. Some reasons that could be cited by the school for not scheduling recommended abatement projects include:

1. The school considers removal to be unnecessarily burdensome and will elect to encapsulate (or enclose) the material. The school considers encapsulation (or enclosure) to satisfactorily protect human health and the environment.
2. Once preventative measures are enacted, the school considers any abatement to be unnecessarily burdensome, and maintaining the material will satisfactorily protect human health and the environment. Consequently, the school does not plan to enact an abatement project on the particular material during the life of the building.

7.2.1 Abatement Recordkeeping

ACTION: The Owner and Asbestos Program Coordinator must ensure that all abatement work is conducted safely and within regulatory guidelines.

TRAINING: Accredited Project Designer
Accredited Abatement Worker

FORMS: Use Form A. Keep records of:

- removal, encapsulation and enclosure projects
- major and minor fiber release episodes

For any abatement project or disturbance of asbestos material, whether planned or accidental, you must keep records. Use Form A and keep a copy under this section (TAB 7) in the Management Plans at the school and the administrative office.

In addition, it is advisable to keep complete records of any abatement projects in a separate notebook. Store these records separately, as they can become quite bulky and not conducive to binding in this notebook. These records should include:

- A. Project Specifications and/or description of scope of work.
- B. Abatement contractors' initial submittals and work plan.
- C. All correspondence including pre-abatement meetings, notes, and all inspection reports.
- D. All air monitoring results.
- E. All disposal receipts.

If you use outside asbestos consultants, they should be able to provide you with procedures to maintain complete abatement project records.

Remember to keep the records for a minimum of three years after the next reinspection and even better--do not throw them away, ever.

**ASBESTOS ACTIVITY RECORD
FORM A**

ACBM RESPONSE ACTION
ACBM PREVENTATIVE MEASURE
CLEANING
O&M ACTIVITY

FIBER RELEASE EPISODE: Minor or Major

OWNER: _____
BUILDING: _____
LOCATION: _____
DATE: _____ to _____
(start) (stop)

DESCRIPTION OF MEASURE OR ACTION: _____

REASON WHY SELECTED: _____

CONTRACTOR: (if used): _____ **IDENTIFICATION NO.:** _____

ADDRESS: _____ **CITY:** _____ **STATE:** _____ **ZIP:** _____

WORKERS USED:

NAME	TRAINING	IDENTIFICATION NO.
------	----------	--------------------

DISPOSAL OR STORAGE SITE:

NAME: _____

ADDRESS: _____ **CITY:** _____ **STATE:** _____ **ZIP:** _____

AIR SAMPLING DATA:

DATES: _____ **ANALYSIS DATE(S):** _____

COLLECTION DATE(S): _____ **LABORATORY ANALYZING SAMPLES:** _____

DESCRIPTION OF LOCATIONS OF SAMPLES: _____ **ADDRESS:** _____

CITY: _____ **STATE:** _____ **ZIP:** _____

METHOD OF ANALYSIS: _____

COMPANY/PERSON COLLECTING SAMPLES:

NAME: _____ **PERSON(S) ANALYZING SAMPLES:**

SIGNATURE: _____ **NAME:** _____

SIGNATURE(S): _____

PROJECT DESIGNER:

NAME: _____

IDENTIFICATION NO.: _____

This signature certifies that this testing lab is enrolled in AIHA PAT program for PCM or is accredited by NVLAP for TEM.

TAB 8

Resources Required

8.1.1 How to Use This Section

The intention of this section is to estimate for budget purposes the resources required to enact the Management Plan. Whether you decide to maintain an ACM in place or schedule a response action these will be a cost of money or manpower to the school.

ABATEMENT COSTS

Tab 6 provides detailed costs of example abatement projects. When you select to implement an abatement project, the figures will provide a mean value for estimating purposes. See TAB No. 6 for a more detailed discussion of General Abatement Options, Cost Considerations, and Definitions.

O&M COSTS

Page 8.2.1 provides an overview of O & M costs for each school. You must review the Inspection Report and determine an A, B, or C cost. See the chart below as a guide for selecting the appropriate cost column.

Building Size	Quantity of Friable Asbestos	O&M Cost Column
Small	Minimal	A
Small	Moderate	A
Small	Extensive	B
Medium	Minimal	A
Medium	Moderate	B
Medium	Extensive	C
Large	Minimal	B
Large	Moderate	C
Large	Extensive	C

MISCELLANEOUS COSTS

Page 8.2.2 provides some rules of thumb for training, reinspection, and other miscellaneous costs.

Use the budget worksheet in this section to help you in determining your expected annual costs.

8.2.1 Resources Required – O&M and Other Costs

COSTS FOR MAINTAINING ASBESTOS IN PLACE

This chart will help schools' budget for an ongoing Operations and Maintenance Program which involves purchasing equipment and training people to maintain a building that has asbestos-containing materials. Columns A, B, and C provide a range to be used based on the size of the building and severity of asbestos assessment. See the chart of this TAB.

INITIAL COST	A	B	C
Training			
2-Hour (\$70 per person)	140	420	700
16-Hour (\$300 per person)	300	600	1,500
Equipment			
HEPA Vacuum*	900	1,500	2,000
Hand Tools (Miscellaneous Tools)	70	120	180
Tank Sprayer	25	50	75
Respirators (Half-face @ \$20; PAPR @ \$500)	50	100	300
INITIAL COSTS	\$1,485	\$2,690	\$4,755

ANNUAL COST	A	B	C
Training (Turnover & Retraining Factor)	200	500	800
Disposable Equipment			
Respirator Cartridge (\$10/set)	20	60	120
Disposable Suits (\$10 each)	10	30	60
HEPA Vac Filters (Prorated)	60	240	480
Glove Bags (\$20 each)	40	80	300
Gloves (\$5 each)	10	30	60
Bags for Disposal (\$2 each)	20	100	200
Encapsulant (\$25/gal.)	25	50	125
Miscellaneous			
(Plastic, Duct Tape, Etc.)	30	60	250
Cleaning Devices (Cloth, Mops)	30	60	250
Dump Fees & Permits	100	200	600
ANNUAL COSTS	\$545	\$1,410	\$3,245

These costs do not reflect in-house labor costs, any fiber release episodes, emergency cleanups, or air monitoring; just general maintenance of buildings with asbestos containing materials.

MISCELLANEOUS COSTS (RULES OF THUMB)

Reinspection Costs:

Reinspection typically costs \$800-\$1,500 per building when using a third-party consultant. If you train and use your own personnel, it may cost less.

Training: \$150 per day of training

Designated Person Training:	1 day	\$150
	2 days	\$300
	3 days	\$450

16-hour O & M Training (2 days)	\$275
2-hour Awareness	\$85
Inspector (3 days)	\$500
Management Planner (2 days)	\$400

Other Cost Considerations:

- Periodic Surveillance
- Fiber Release Episodes
- Public Relations

TAB 9

Response Action Schedule

9.1.1 Schedule for Recommended Repairs

For all materials for which the Management Planner has not recommended repairs, repairs should be scheduled as soon as feasible unless otherwise noted.

9.1.2 Schedule for Continuous O&M

For all materials for which the Management Planner has not recommended repairs, ongoing O&M should be established or continue to be implemented per practices outlines in Tab 12.

TAB 10
Periodic Surveillance

10.1.1 Periodic Surveillance

ACTION: Check the condition of the asbestos-containing materials (ACM) at least every 6 months.

TRAINING: None required; O & M or Inspector suggested.

FORM: Use the form included in this Section (Form B).

A well-run asbestos management program must include periodic surveillance of the ACBM. Periodic surveillance is the scheduled observation of asbestos materials to determine if any damage or deterioration occurred since the previous observation. Because much of the ACBM is observed daily by the school staff during normal work and also because many areas are not accessible, slight changes in the condition of the ACBM occurring over time may not be readily apparent.

Some building owners conduct monthly surveillance. AHERA requires surveillance in K-12 schools at no greater than six months intervals, and this is a prudent minimal frequency for any Owner. This periodic surveillance can save the building owner considerable time, money, and embarrassment in the event of ACBM deterioration or damage. Moreover, properly conducted surveillance provides a great deal of comfort to building workers and occupants.

Refer to the assessment sheets under TAB 5 to determine surveillance intervals less than 6 months maximum. The Owner may consider shorter intervals for highly friable and accessible materials.

SURVEILLANCE PERSONNEL

AHERA establishes no training requirements for the persons conducting the periodic surveillance. Any employee or contractor selected by the Asbestos Program Coordinator is allowed to conduct the surveillance. PBS recommends that the observer either take a 16-hour Operations and Maintenance course or a 3-day inspector course. The individual should be knowledgeable of the building's construction, previous inspections and surveillances, generation of records, conditions to be observed, and personal protection. It is the Owner's responsibility to ensure that the surveillance does not cause an exposure or safety problem for the person conducting this activity.

DATA REQUIREMENTS

All areas with ACBM or suspected ACBM must be visually examined in each periodic surveillance. A record of the surveillance date and the person conducting the surveillance, as well as any changes in ACBM conditions, must be recorded. This requires the person to be knowledgeable of earlier ACBM conditions. The records generated by this periodic inspection must be filed in the Management Plan at the Owner's administrative office. It is recommended that the reports to be filed in the administrative office be submitted to the Asbestos Program Coordinator for review.

SURVEILLANCE CONCERNS

The person conducting the periodic surveillance must observe the same major factors that were observed in the original inspection and that were used to assess the material's conditions. The six items to be evaluated are:

- Deterioration or delamination of the materials.
- Physical damage to the material or adjacent areas.
- Water damage of any material in the area.

- Air-stream effects.
- Exposure, accessibility and activity changes.
- Changes in building use.

RECORDKEEPING

File Periodic Surveillance Reports under TAB 10 and utilize the appropriate form (FORM B).

COMMUNICATIONS

Any changes in conditions or notable circumstance should be communicated to the Asbestos Program Coordinator. The updated information is to be included in the Management Plan and in the annual notification letters.

**PERIODIC SURVEILLANCE
FORM B**

At least every six months these materials should be reviewed for any changes in conditions. The initial conditions are indicated in your Management Plan. Review them carefully and then walk through the building to observe current conditions. Be sure to note both friability and damage for every material by checking the appropriate category. This form is to be kept in the periodic surveillance section and should be utilized anytime you notice a change.

DO NOT TOUCH ASBESTOS-CONTAINING MATERIAL WITHOUT PROPER TRAINING

School District: _____ Date of Observation: _____
 School Name: _____ PBS Project No.: _____

MATERIAL	LOCATION	QUANTITY	DAMAGED?	FRIABLE?	CHANGE / COMMENTS
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____

Remarks:

By: _____

Title: _____



Newly Discovered ACM Form B1

Occasionally previously unknown ACM or PACM is discovered during routine maintenance or removal projects. These materials are to be reported to the asbestos program manager within 24 hours of discovery. Complete all sections of this form and be sure to identify the type of material, the location and the quantity (your best estimate). This form is to be kept in the periodic surveillance section and should be used anytime you or contractor discovers new ACM/PACM.

DO NOT TOUCH ASBESTOS-CONTAINING MATERIAL WITHOUT PROPER TRAINING

Facility Name: _____

Building: _____

Date of Observation: _____

	Material	Location	Quantity
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____

Description of condition:

Remarks:

By: _____

Title: _____



TAB 11
Reinspections

11.1.1 Reinspections

- ACTION:** Reinspection is recommended every 3 years.
- TRAINING:** Accredited Inspector/Management Planner.
Decide if you will train in-house people or not.
- FORM:** Update management plan using Inspector's report format.
-

At least once every three years, after the Management Plan is in effect, all buildings should be reinspected by an accredited Inspector. This differs from periodic surveillance and is more comprehensive because material is actually touched to determine friability or change in friability, along with noting assessment criteria such as condition. The reinspection may also include additional samples of suspect material, accessing previously inaccessible areas, and other activities. The person performing these tasks should, at least, be an accredited Inspector. An accredited Management Planner may be necessary to recommend additional actions.

The decisions an LEA must make prior to this reinspection is to either train their in-house staff to perform the reinspection or utilize an outside consultant.

The AHERA-accredited Inspector training course is three days long, with a 50-question exam that must be passed. An AHERA Management Planner training course is an additional two days with another 50-question exam. If a person is presently an accredited Inspector or Management Planner, they must have an annual refresher course to keep their accreditation current.

RECORDKEEPING:

Keep the reinspection form in this TAB section, along with any new data. New sample locations should be noted on copies of the drawings in TAB 5, if applicable, and then filed in this section.

Records of previous reinspection reports, prior to 2023, do not exist.

TAB 12

Operations and Maintenance

12.1.1 O&M General Description

SCOPE: Implement an Operations and Maintenance Program to keep asbestos-containing materials in good condition.

RECOMMENDED TRAINING:

Minimum: 16-hour training for individuals who must disturb asbestos-containing materials.

FORMS: Keep records of all activities.

OPERATIONS AND MAINTENANCE OVERVIEW

An Operations and Maintenance (O & M) Program is required by the AHERA regulations for all school buildings with friable ACBM. It is also considered by PBS, Inc. to be a necessity for any building with only nonfriable ACBM because of the eventual need for repairs and routine or emergency maintenance. It is highly recommended that an Owner implement an O&M Program in a timely manner.

The O & M Program is a set of specific procedures and practices applied to building cleaning, maintenance, renovation, and general operation to maintain the building as free of asbestos contamination as possible. The O & M Program draws heavily on information generated during the inspection process and should remain in effect until all friable and nonfriable asbestos materials are removed from the facility. An excellent description of an O & M Program is found in the AHERA Federal Register. 40 CFR Part 763, Appendix B should be read completely as it is only three pages long and well worth the effort.

Properly enacted, this program will document the building owner's prudence in dealing with asbestos in the building. There are three primary objectives of the O & M Program:

- Clean up and repair existing ACBM
- Minimize future fiber release by controlling access to ACBM
- Maintain ACBM until it is eventually removed

Since by law all ACM must be removed from buildings before demolition, the O & M Program is not a permanent solution, nor is it a means by which full-scale asbestos abatement is accomplished. Rather, material is removed only as necessary for maintaining the building systems. As an example, asbestos-containing insulation may be removed around a leaking steam valve to gain access for repairing the valve as part of an O & M Program. Removing material is allowed and anticipated as an integral part of the O & M Program, but the motivation to remove material must develop from a specific maintenance need. Large abatement projects that require extensive planning and technical expertise are beyond the scope of the O & M Program.

COMPONENTS

Maintaining asbestos in place may be the only affordable option for many building owners. It is a multi-faceted program and involves many parts of this Management Plan. The major components are as follows:

- Periodic surveillance TAB NO. 10
- Specific maintenance and cleaning practices TAB NO. 12
- Medical surveillance TAB NO. 13
- Training employees and workers TAB NO. 14
- Notification and labeling TAB NO. 15
- Recordkeeping TAB NO. 16

Creating and enacting the O & M Program is central to this management plan. Information to accomplish this task is found in this section and through the recommended training courses for the Asbestos Program Coordinator and maintenance workers.

The heart of any asbestos program is the inspection and the inspection documentation. Understand the inspection report and the location of asbestos-containing building materials.

An Operations and Maintenance Program for asbestos materials will highly impact the building's maintenance activities and will involve the cooperation of all maintenance staff members. Once mastered, the procedures will become routine, and the additional burden of asbestos-containing materials will become an accepted practice.

POLICIES

One of the most complicated areas of the AHERA rules is understanding what activities you can or should perform with your own trained staff, short of having everyone trained as a full-scale worker. Consideration should be given to further training over the very minimum as one way to assure competency when conducting activities that impact asbestos. An Owner should set policies that clarify the confusion between State and Federal laws and to reflect the uniqueness of their operation and facilities. Policies should be set with input from many sources such as the Administration, regulatory agencies, legal representative, and outside consultants.

Below are some policy statements that the Owner may consider adopting. Once policy statements are formalized by the Owner, the Asbestos Program Coordinator should ensure that they are written (preferably on Owner letterhead) and distributed for inclusion in this tab for all of the Owner's Management Plans.

1. Example: All maintenance activities shall be by as in-house permit system. The Asbestos Program Coordinator shall sign off that asbestos-containing materials are being properly treated for each remodeling or maintenance project.
2. Example: All removal of ACM greater than 3 SF shall be performed by an outside contractor with their accredited personnel.
3. Example: Other activities for which the Owner will use in-house or outside contractors as follows:

Activities	In—House Consultant	Outside Contractor or Consultant
Special cleaning in proximity to friable ACBM	X	
O & M Activities		X
Fiber Release Episode:		X
Minor (3 SF or LF and less)		X
Major (3 SF or LF and more)		X
Response Actions		X
Training Provider:		X
2-hour Custodial Training		X
2-day Maintenance Training		X
Project Design and Specifications		X
Air Monitoring		X
Abatement Project Management		X

4. Example: The Owner will appoint an asbestos coordinator for each appropriate building to handle building-specific situations. Insert the name on Page 2.1 of TAB 1.

Remember, all of the above policy statements are examples and are not mandated. For an O&M Program to be effective, though, the Owner should adopt policy statements appropriate to their operation.

PERMIT SYSTEM

Minimizing inadvertent disruption of ACBM during maintenance and renovation operations is often one of the most difficult tasks faced by the Asbestos Program Coordinator. Initiating a permit system, where all work orders or requests are funneled through the Asbestos Program Coordinator is a simple yet effective way of controlling disruption of ACM during these activities.

In the permit system, all requests for maintenance/renovation activities (other than emergency responses) are given to the Asbestos Program Coordinator prior to the issuance of a work order to proceed. He or she then checks the building's asbestos records, computerized database, or management plan for information about the presence of ACBM where work is to be performed. The manager should also physically inspect the area in question to ensure records reflect actual conditions.

If no asbestos is present, the work order is issued, and the planned actions can proceed. If small quantities of ACBM are found to be present in the area, the Asbestos Program Coordinator will sign the permit application and equip properly trained maintenance/renovation workers to deal with the ACBM during the operation. In worst-case situations (e.g., large amounts of ACBM), non-critical maintenance/renovation work should be deferred until the ACBM in the area can be abated by an abatement contractor.

RESPIRATOR PROGRAM

A Respirator Program must be established if maintenance personnel are to be trained to remove, encapsulate, or repair asbestos-containing materials or required to enter contaminated areas. The minimum recommended level of training for maintenance personnel involves a two-day course of intensive hands-on education. The details of Respirator Programs will be discussed in depth during that training, but should at least include:

1. A written statement of district policy, including assignment of individual responsibility, accountability, and authority for required activities of the respiratory protection program.
2. Written standard operating procedures governing the selection and use of respirators. Respirator selection (from NIOSH/MSHA approved and certified models) on the basis of hazards to which the works exposed.
3. Medical examination of workers to determine whether or not they may be assigned an activity where respiratory protection is required.
4. User training in the proper use and limitations of respirators (as well as a way to evaluate the skill and knowledge obtained by the worker through training).
5. Respirator fit testing.
6. Regular cleaning and disinfecting of respirators.
7. Routine inspection of respirators during cleaning, and at least once a month and after each use for those respirators designated for emergency use.
8. Storage of respirators in convenient, clean, and sanitary locations.
9. Surveillance of work area conditions and degree of employee exposure (e.g., through air monitoring).

10. Regular inspection and evaluation of the continued effectiveness of the program.

The Respirator Program involves medical testing of personnel who must wear respirators, respirator selection, respirator fit testing, and proper care and maintenance of the respirator. The Respirator Program must be written, and records kept. If the Owner's program requires that a Respirator Program be established, the Asbestos Program Coordinator must be responsible for implementation and adherence to the established procedures.

12.2.1 Fiber Release Episodes

SCOPE: Response to accidental disturbance of friable ACBM.
Minor Fiber Release: 3 SF or LF and less
Major Fiber Release: 3 SF or LF and more

RECOMMENDED TRAINING:

Minor Fiber Release: 16-hour O & M Training
Major Fiber Release: Accredited Project Designer and Accredited Abatement Worker

FORMS: Form A

An accidental disturbance of asbestos material resulting in asbestos fibers being released into the air is considered a Fiber Release Episode. If less than 3 square feet or lineal feet are dislodged it is considered a minor fiber release. If greater than 3 square feet or lineal feet is dislodged, it is a major fiber release. Follow the guidelines below as appropriate.

MINOR FIBER RELEASE EPISODE (LESS THAN 3 SF OR 3 LF)

1. 2 DAY TRAINING. Personnel with a minimum of a 16-hour O & M training course can perform the cleanup.
2. RESTRICT AREA. Immediately restrict access to the area to only those necessary to enact the cleanup. Shut off air handling equipment, if necessary, to prevent fiber dispersal to other areas of the building. Other sources of air movement such as open windows, openings under closed doors, etc. must be considered and dealt with accordingly.
3. WET MATERIAL. The material or debris should be thoroughly wetted and disposed of in labeled and sealed 6-mil plastic bags.
4. CLEAN AREA. Prior to cleaning the horizontal surfaces such as floors, etc., lightly mist the air with amended water. Begin at the high point of the room and end low to the floor. This is to trap airborne asbestos fibers. Allow time for mist to settle. Using a HEPA vacuum and/or wet methods clean the affected area. The area cleaned should extend at least three feet in all directions from locations of obvious debris. Dispose of rags, water, etc. properly.
5. REPAIR. Repair damaged areas with asbestos-free materials. Use the method described in the technical sections.

Note: Determine if episode can recur and institute preventative measures. Consultations with other people within or outside the district may be appropriate. Air monitoring while cleaning up and afterwards may be desired.

MAJOR FIBER RELEASE EPISODE (MORE THAN 3 SF OR 3 LF)

1. RESTRICT AREA. The maintenance staff should immediately restrict access and post warning signs to the area. So as not to exacerbate the situation, trained personnel should enter area only as absolutely necessary. Shut-off air handling system or modify to prevent asbestos fibers from spreading. Other sources of air movement such as open windows, openings under closed doors, etc. must be considered and dealt with accordingly.

2. Design the response action using accredited Project Designer.
3. Accredited full-scale abatement personnel must be used to perform the cleanup.
4. Review nearby materials for inclusion and compare various response options.
5. Execute the response action with proper management and air monitoring.

Notify the local air pollution control and other authorities as necessary. If building occupants are involved and they come in contact with ACMs, stay calm, do not brush material from clothing and avoid trampling material. HEPA-vacuum and wet-wipe clothing and skin. Treat physical injuries requiring immediate first aid before decontamination of individuals and clothing.

FIBER RELEASE OR O & M ACTIVITY?

Much confusion may exist as to the difference between a Fiber Release Episode and an O & M activity. It is a key issue in that only 3 square feet or linear feet of material may be removed by 2-day trained maintenance personnel during a fiber release episode, but no such clearly defined limit exists for an O & M activity. The difference is the motivation for the action taken and the material's condition prior to the activity.

A Fiber Release Episode is accidental damage to friable asbestos material. The damage results in asbestos fibers being released into the air. Some examples would be tradesmen causing damage to a textured ceiling material or school personnel damaging a boiler jacket while moving equipment in the boiler room. The response to these situations would be as described for Fiber Release Episodes.

Removal of ACBM as an O & M activity is motivated by the need to safely maintain a mechanical system or other building component. Examples would be a leaking steam valve insulated with asbestos material or moving asbestos-containing ceiling tiles to gain access to the ceiling space to alter the air handling system. The removal is a precursor to another activity and the material being removed is likely in good condition and thereby not releasing vast quantities of asbestos fibers.

Materials that are excessively damaged and releasing fibers must be encountered using the procedures described as a Fiber Release Episode. Materials that are in generally good condition but must be removed for the purposes of maintaining the building, are addressed as O & M activities.

12.3.1 Conducting O&M Activities

GENERAL GUIDELINES

When trained maintenance personnel are required to remove, encapsulate, or repair friable ACBM in the course of their regular maintenance activities, the following general guidelines should be followed. These guidelines are for planned or emergency disturbance of ACBM resulting from maintenance needs. Prior to the O & M activity, it is assumed that the material is in relatively good shape and does not meet the criteria of a Fiber Release Episode. A Fiber Release Episode is the accidental damage which causes an immediate release of asbestos fibers into the air. Fiber Release response is described in Section 2.0 under this tab. Additional O & M guidelines for the specific materials found in each building are presented in the technical sections that follow.

1. RESTRICT ACCESS. Restrict entry into the area to only those necessary to perform the maintenance project. All personnel in the area must be protected as described in the technical sections. Access may be restricted through physical means or by scheduling.
1. POST SIGNS. Signs must be posted at all reasonable points of entry into the affected work area to prevent entry by unauthorized persons.
2. SHUT OFF AIR HANDLERS. The building's air handling system must be shut off or modified to prevent air movement which could carry fibers outside of the affected work area. Other sources of air movement such as open windows, openings under closed doors, portable fans, etc., must be considered and dealt with accordingly.
3. USE PROPER WORK PRACTICES. Trained personnel must use good work practices such as wet methods, HEPA exhaust fans, mini-enclosures, glove bags, etc. to inhibit the spread of released fibers. The technical sections describe the appropriate procedures.
4. CLEAN AREA. After the necessary disturbance of the ACBM, the fixtures, components and surfaces in the immediate and affected area should be HEPA vacuumed or wet cleaned.
5. DISPOSE OF DEBRIS. Asbestos debris, used glove bags, contaminated rags, etc. must be placed in sealed, leak-tight containers or 6-mil plastic bags. The bags and containers must be properly labeled. Dispose of at an approved landfill.

The following methods of personnel protection are referenced in the technical sections. Only trained personnel with proper medical approval and fit test can wear respirators. All respirators must be approved by NIOSH/MSHA (United States Department of Health, Education and Welfare, Center for Disease Control, National Institute for Occupational Safety and Health; and United States Department of Labor, Mine Safety and Health Administration) and be equipped with HEPA filter disposable cartridges (magenta/purple color code). It is assumed that adequate oxygen supply is present in the work area as none of the respirators listed supply additional air to the wearer. The HEPA cartridges filter minute dust particles and are not effective for filtering organic vapors, paint mists, etc.

Level	Respirator	Protective Clothing
One	Half-face negative pressure	Disposable rubber gloves
Two	Half-face negative pressure	Disposable rubber gloves Single layer disposable coveralls (Tyvek)
Three	Half-face negative pressure	Disposable rubber gloves Double layer disposable coveralls (Tyvek)

Four	Full-face powered air-purifying	Disposable rubber glove Double layer disposable coveralls (Tyvek)
------	---------------------------------	---

PERSONAL DECONTAMINATION PROCESS

After completion of the maintenance activity, the worker must properly decontaminate. The process is generally the same for all Protection Levels. The worker should follow the steps below as appropriate to the level of protection.

1. HEPA-vacuum outer layer of Tyvek coveralls. Carefully remove, turning coveralls inside out.
2. HEPA-vacuum inner layer of Tyvek coveralls. Carefully remove, turning coveralls inside out.
3. Carefully remove rubber gloves, turning gloves inside out.
4. Dispose of coveralls, gloves and other contaminated items in 6- mil plastic bags properly labeled and leak tight.
5. Wash hands, face and other exposed skin.
6. Remove respirator and clean. Detach cartridges and dispose.

COMMON MATERIALS AND DEFINITIONS

1. Amended Water: Clean potable water containing a surfactant additive. The surfactant additive shall be 50 percent polyoxyethylene ether and 50 percent polyethylene ester, or equivalent, and shall be mixed with water at a concentration of one ounce surfactant to 5 gallons of water, or as recommended by the manufacturer in the case of an equivalent.
2. Disposal Containers: Disposal containers shall be suitable to receive and retain any asbestos containing or contaminated materials until disposal at an approved site. The containers shall be labeled in accordance with OSHA and EPA regulations. Containers must be both air and watertight, and have hard top, bottom and sides. Steel or fiberboard are acceptable materials.
3. Encapsulants: Encapsulants shall be of the bridging or penetrating variety and shall be listed as "satisfactory" by the EPA.
4. Glove Bag: A manufactured device consisting of a transparent plastic bag with inward projecting sleeves, an internal tool pouch, provisions for fastening and sealing at the top and sides, and a receptacle in the bottom to hold asbestos waste. The glove bag is installed to surround the material to be removed and contain all fibers released during the process. Glove bags are used to remove insulation from small sections of pipe and fittings.
5. HEPA Filter: A High Efficiency Particulate Air (absolute) filter capable of trapping and retaining 99.97 percent of asbestos fibers greater than 0.3 microns in length.
6. HEPA Vacuum Equipment: High Efficiency Particulate Air (absolute) filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97 percent efficiency for retaining fibers of 0.3 microns in length or larger.
7. HEPA Fan Unit: An air-purifying fan which draws air through a HEPA filter.
8. Mini Enclosure: A small temporary enclosure of 6-mil plastic sheeting constructed around a work area to contain airborne asbestos fibers. Attached to the mini enclosure is a three foot by three-foot plastic chamber to be used for decontamination purposes.

9. Plastic Bags: Plastic bags shall be 6-mil polyethylene printed with warning labels per OSHA and EPA regulations.
10. Rewettable Lagging Cloth: 12-oz. glass fabric lagging cloth saturated with dried lagging adhesive. "Dip-Lap" as manufactured by Claremont Co. or equivalent.
11. Tack Coat: A coat of penetrating encapsulant applied to all surfaces from which asbestos-containing materials have been removed.
12. Warning Labels and Signs: Warning labels and signs shall be posted as required by OSHA and EPA regulations.
13. Wet Cleaning: The process of eliminating asbestos from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water.

DISPOSAL

The Operations and Maintenance Program will intermittently generate small quantities of asbestos debris and contaminated waste. It may not be feasible to transport the waste directly to an approved landfill at the time the waste is generated. Consequently, the Asbestos Program Coordinator should establish an area to safely store disposal bags prior to transport to the landfill.

The area should be securely locked, inaccessible to non-maintenance personnel, and directly open to the outside if possible. Used disposal bags must be double bagged, kept sealed and should be stored in a labeled steel or fiberboard drum. Once a bag is sealed, it should not be reopened. This allows reuse of the drum container if the outer bag of double-bagged waste remains undamaged. If the bags are damaged the drum container must also be disposed as contaminated waste unless it can be effectively cleaned. The landfill dump receipt and other records should be kept as part of the recordkeeping process and a summary of those activities kept in all of the Management Plans.

Contaminated water must either be double bagged as asbestos waste or passed through a HEPA water filtration device. If cleansed through a filtration device the water may be disposed through the building's plumbing system.

TAB 13

Medical Surveillance

13.1.1 Medical Surveillance

ACTION: Anyone who is trained to wear a respirator must have a medical exam.

FORMS: Records must be kept.

MEDICAL MONITORING

The school must establish a medical monitoring program for all employees who work in atmospheres containing more than 0.1 fiber per cubic centimeter [f/cc] during an eight-hour time-weighted average, or for any employees who wear a respirator under both OSHA and EPA work rules. For LEAs, this means all employees who receive the additional 14 or the 24 hours of training or other certified worker training and are expected in any way to handle ACBM. As for the asbestos management program as a whole, the reasons for this medical monitoring are (1) to protect employees, (2) comply with regulatory requirements, and (3) minimize the owner's liability.

A sound medical monitoring program will allow the building owner to comply with both OSHA and EPA regulatory requirements, establish the individual worker's fitness to perform the work, monitor a worker's related respiratory functions, and minimize the owner's long-term liabilities. This section briefly describes the medical exam requirements and provides example forms for recordkeeping.

EXAMINATION REQUIREMENTS

All persons who will contact ACBM in their work must have a medical exam under OSHA 1910.1001 and OSHA 1926.58, and in EPA 40CFR 763.91[B]. The specific physical is more inclusive than the normal physical and should be performed by a qualified physician. Required are a chest x-ray, medical history (especially respiratory problems), and pulmonary-function testing (including forced vital capacity and forced expiratory volume). The employer must provide the employee with a medical exam within 30 days of his employment, or before the employee can use a respirator. Exams are to be conducted yearly and at the termination of employment.

The employer must provide the results of the exam to the employee, together with an explanation of the findings. In addition, the physicians may not reveal any non-asbestos related findings to the employer. It is critical that the records be maintained so that changes in the employee's respiratory capacity or chest X-ray results can be evaluated.

RECORDKEEPING

Employer must keep the records of all medical examinations for a minimum of 30 years, after the termination of the employee's employment. Examples of a medical surveillance record form and example forms for examinations and pulmonary history data are included in this section. Track employees hire date and the dates of their exams.

PURPOSE OF THE SPECIFIC TEST

Physical Examination. The physician should obtain the medical history and conduct an examination of blood pressure, pulse, vision, and hearing, plus urinalysis.

Chest X-Rays. Irregularities in the lungs that may indicate previous asbestos or dust exposure can be revealed by X-ray, and as effects of smoking and other factors that may indicate early phases of respiratory diseases or an inability to wear a respirator. The X-rays should be interpreted by a physician classified as a "B Reader" (a

recognized authority in reading chest X-rays) or by an experienced physician. It is recommended that the employer use B Readers.

Pulmonary Functions. The pulmonary-function test evaluates whether the lungs are performing normally and whether air flow into and out of the lungs is adequate. Although the tests are usually nonspecific initially, changes in capacities are monitored from exam to exam, and long-term changes (if any) can be observed.

Pulmonary History. Obtaining pulmonary history establishes whether the person has had previous respiratory problems and determines if he or she is a smoker. Both can affect the ability to wear a respirator and the synergistic effects of smoking and asbestos exposure need to be pointed out to the employee. Often, smokers are not allowed to work with asbestos.

TAB 14
Training

14.1.1 AHERA Training Requirements

ACTION: You must train your custodian and maintenance employees. Prior to the start of the O & M Plan, there is a 2-hour awareness training and 14 additional hours of training for workers who may come in contact with asbestos.

FORM: Form C

EMPLOYEE AND WORKER TRAINING

Training workers to use special procedures and work practices is a key to a successful asbestos management program. The training requirements differ between OSHA and AHERA, and various state training programs will differ. See the chart after Page 1.3.

All LEA maintenance and custodial staff, as well as contract workers, who work in a building containing ACBM are required to receive at a minimum a 2-hour awareness training seminar. Any of these workers who will disturb ACBM must receive an additional 14 hours of training. Workers engaged in large-scale, long-duration ACBM activities in K-12 schools must receive 24 hours of training and become "Accredited Asbestos Workers". They must also receive an annual 8-hour refresher course. In Washington State the training program is 30 hours for "Accredited Workers".

The time intervals for the awareness education and 14 hours additional training of the employees are not specified by EPA regulations. However, it is highly recommended that both the two-hour awareness seminar and the additional 14 hours of training be given annually. All employees must receive the 2-hour awareness training within 60 days of beginning work or, if they will come into contact with ACBM, before they begin their activities. Intervals should be checked for compliance with state and local rules and regulations. Many private companies and LEAs have all workers who contact ACBM attend the 24-hour training to provide the highest level of worker training. A sample employee training records form is included in this section.

LEA DESIGNATE

The local Education Agency designated person (asbestos program manager) is the responsible person on behalf of the school to ensure that the management plan and the AHERA rules are followed and, even more importantly, to protect the health of the building occupants and the environment.

Every LEA must designate a person and train them with the basic knowledge of the following:

- Health effects of asbestos
- Detection, identification, and assessment of asbestos-containing materials
- Options for controlling asbestos containing building materials
- Asbestos management programs
- State and Federal regulations

There is no approved course or length of training set by the EPA. Some people are of the opinion that the LEA designate should take a 5-day Accredited Inspector/Management Planner course. This is the highest level of accredited training for non-workers. Because the LEA designate is the most responsible party in the asbestos management process, taking this course when available makes sense. There are 3-day courses to train LEA designates and even 1-day courses.

TWO-HOUR AWARENESS TRAINING

The required LEA 2-hour awareness training program should include the information given to the occupants for the general information sessions and mailings and should include:

- Uses and forms of ACBM
- Health effects of asbestos
- Location of ACBM in building
- Recognition of problems such as damage, deterioration, or delamination of ACM
- Name and telephone number of the APM
- General understanding of the asbestos management program
- Overview of work practices and procedures to be followed by personnel who will contact ACBM

WORKERS WHO CONTACT ACBM

All employees and contract personnel who contact ACBM through cleaning maintenance or emergencies must have at least an additional 14 hours of training (16 hours total). Three types of training for workers who contact ACBM can be identified:

- Training for custodians involved in cleaning and simple maintenance tasks
- Training for maintenance workers involved in general maintenance and more complex repair tasks
- Training for workers who may conduct limited asbestos abatement (removal, enclosure, and encapsulation) or whose work involves direct (intentional) contact with ACBM

All three types of training should include general discussions of the uses and health effects of asbestos, the location of ACBM in the building, the overall asbestos control program, and the asbestos management program.

The additional 14-hour training program should also include:

- Physical characteristics of asbestos
- Methods and procedures for handling and disposing ACBM
- Medical monitoring and surveillance requirements
- Personal protection, including respiratory protection and protective clothing
- Working knowledge of the asbestos management program, including safety, access, and reinspection
- Equipment availability and uses including wet cleaning, HEPA vacuuming, steam cleaning, etc.
- Hands-on training in use of respirators, personal protection, work practices, and fiber control.
- Importance of recordkeeping and employee record generation requirements
- Requirements for clearing work-order through the APM for of all renovation and ACBM disturbance activities
- Non-asbestos safety considerations
- Training and licensing requirements by state and local agencies

ACCREDITED ASBESTOS WORKER TRAINING

The training requirement for an accredited asbestos worker includes a 24-hour, or three-day course. The course should include lectures, demonstrations, at least six hours of hands-on training, individual respirator fit-testing, course review, and an examination. EPA recommends the use of audio-visual materials to complement lectures where appropriate.

The training course should adequately address the following:

- Physical characteristics of asbestos
- Potential health effects related to asbestos exposure
- Employee personal protective equipment

- State-of-the-art work practices
- Personal hygiene
- Addition safety hazards
- Medical monitoring
- Air monitoring
- Relevant federal, state, and local regulatory requirement, procedures, and standards.
- Establishment of respiratory protection programs
- Course review

The worker must receive a passing grade of 70 percent on an examination with 50 multiple-choice questions.

TEACHING QUALIFICATIONS

The 2- and 14-hour training programs can be conducted by any qualified person trained in asbestos control and management. The EPA stresses the use of the most qualified people available. The 24-hour training program for workers must be an EPA-accredited training course. A sample form for recording individual worker training is included in this section.

CONTRACT SERVICES

Where custodial and maintenance services are performed under contract with a service company, the building owner must ensure that the service company's staff has been properly trained for working with ACBM. Training will include successful completion of courses on asbestos control and special programs that meet the requirements for the LEA staff discussed above. The company's respirator and medical surveillance programs should be reviewed. In addition, the company performance should be verified with other customers, particularly owners of buildings containing ACBM.

If the service company meets the training and performance requirements, an initial session should be held with the company's supervisors and workers to inform them of the location of ACBM in the building and of all building-specific operating procedures. The APM assumes responsibility for ensuring that the service company adheres to all aspects of the asbestos management program.

RECORDKEEPING

Utilize the form included in this section for keeping training records. Store them under this TAB section.

AHERA TRAINING REQUIREMENTS

Training Course	Length	Course Approval					Refresher Course
		None	AHERA	OR	WA	AK	
LEA Designate	1-3 days	X					Recommended
Custodian Awareness	2-hour	X					Recommended
Maintenance Worker (Small Scale) ¹	16-hour	X ¹		X	-- ⁶		Recommended
Inspector	3 days		X	--	--	--	Required Annually
Management Planner	2 days ²		X	--	--	--	Required Annually
Asbestos Worker (Full Scale)	3 days or 4 days ³			X ⁵	X ⁵	X ⁵	Required Annually
Asbestos Supervisor (Competent person)	4 days				X ⁵	X ^{5,7}	Required Annually
Project Designer ⁴	3 days		X	--	--	--	Required Annually

Notes:

1. Oregon Classification: other states approval is not required
2. Must be an inspector prior to becoming a planner
3. 3 days Oregon, 4 days Washington and Alaska
4. Competent person training can be substituted for project designer
5. State approval is AHERA approval
6. Small scale worker not recognized. Anyone impacting asbestos must be a full-scale worker.
7. Washington certification to start in January 1989

**TRAINING RECORD
FORM C**

- LEA DESIGNATE
- 2-HR. AWARENESS
- 16-HR. MAINTENANCE
- OTHER _____

School District: _____

School Name: _____

Name: _____

Address: _____

City, State, Zip: _____

Job Title: _____

Training Course: _____

Training Course Location: _____

Training Course Provider: _____

Training Course Description: _____

Length: _____

Instructor: _____

Accreditation Number (if applicable): _____

TAB 15

Plan Distribution/Notification

15.1.1 Plan Distribution/Notification

ACTION: Send an annual notification to parent, teacher, and employee organizations.
Short-term workers must be informed as to the location of ACBM in the school building.

FORMS: Sample letters are included in this section.

AHERA requires that the LEA notify all building occupants, workers, contractors, and parents or legal guardians of school children. There are three key elements to the Notification program: Initial Notification, Annual Notification and Short-Term Worker Notification. The AHERA Initial and Annual Notification must include a discussion of:

- Inspections
- Reinspections
- Surveillance
- Response actions
- Pos-response action activity
- Availability of management plans

The LEA designate can realize benefits from the notification program because informed occupants are less likely to disturb the material and will report problem situations.

Contract workers (short-term) who will come in contact with ACBM during their work must be informed of the presence of ACBM. In addition, under various right-to-know laws, all workers must be informed of the potential for contact with hazardous materials such as asbestos.

INITIAL NOTIFICATION OF THE MANAGEMENT PLAN AVAILABILITY

At the implementation of the Management Plan, notification to parent, teacher, and employee organization of the availability of the plan is to be enacted. Enclosed is a list of steps that are to be taken to provide adequate notifications.

Sample Letter A can be used as an outline for this notification.

ANNUAL NOTIFICATION

On an annual basis the parent, teacher, and employee organizations shall receive notification reiterating the availability of the plan and other asbestos activities that will occur or have occurred. The annual notification is included in the steps to be taken.

Sample Letter B can be used as an outline for this notification.

NOTIFICATION PROCESS

The Initial and Annual Notification should follow these procedural steps:

Step 1: Notify in writing the president of the parent, teacher, and employee organizations about the availability of the management plan. This is to be done when the plan is submitted to Governor's designate (October 1988).

Step 2: If in the event there are no organizations for either parent, teachers, or employees, other logical information devices will be used. A newspaper notice is an acceptable media to comply to the AHERA rules.

Step 3: The notification will explain the location and availability of the management plan, at no cost to review, and how to receive a copy (i.e., \$.10 per page or \$10 per copy). A summary of each school inspection report may be included in the letter initially and annually if desired.

Step 4: The notification will include all response actions scheduled, all response actions previously undertaken in the past calendar year, notice of inspections, periodic surveillance and other pertinent asbestos management activities that are planned or in progress.

Step 5: Recordkeeping: A dated copy of each notification is to be kept. In addition, a signed receipt from a certified letter should be kept (optional). Keep all records under TAB 15.

SHORT-TERM WORKER NOTIFICATION

Information regarding the location of ACBM must be provided for all short-term workers who come into the building according to the AHERA Final Rules. To comply to this requirement, the LEA should inform all short-term workers that the management plan must be reviewed prior to working in the building.

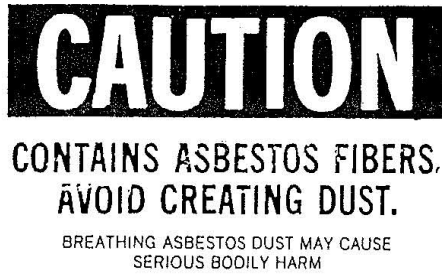
This can be accomplished by the following:

- A. All workers are to report to the school administrative office prior to starting any activities, review the plan, and sign a statement that they have done so.
- B. Include, in any contracts, a statement that the management plan must be reviewed prior to any person working in the building.

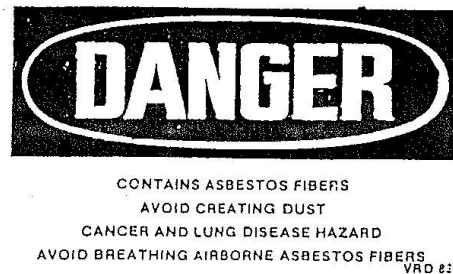
A suggested sign-in form and contract wording are included in this section.

15.2.1 Labeling

ASHERA requires labeling of all asbestos-containing materials with a "CAUTION" label in routine maintenance areas (i.e., boiler rooms, fan rooms). Labels should be attached adjacent to materials and shall be prominently displayed in readily visible locations. In Oregon only, all pipes insulated with asbestos-containing materials are to be labeled whenever they are located. Labels are to be placed for every 75 feet of pipe and at junctions. The wording is to be the OSHA "DANGER" label.

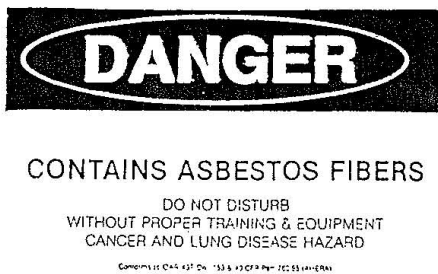


ASHERA Label

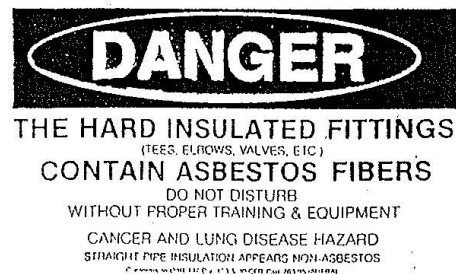


OSHA Label

PBS exclusive: PBS has developed a label that satisfies both the ASHERA "CAUTION" wording and the OSHA "DANGER" wording. It allows one label to be used in pipes in Oregon. Another common situation encountered in surveying is a crawlspace or boiler room that has only asbestos-containing fittings while the straight runs are a non-asbestos materials such as fiberglass. PBS has developed a "Danger" label that specifically states that the hard fittings are asbestos-containing. This avoids an unsightly mass of labels of all the hard fittings in a room. It is applicable for OSHA and ASHERA wording. By upgrading the wording from CAUTION to DANGER a greater degree of safety is achieved and consequently used their labels in Washington and Alaska as well.



PBS Dual Label



PBS Hard Fitting Label

Understand the ASHERA labeling laws and the laws in your state and which labels have been used in your district school buildings.

**SAMPLE CONTRACT CLAUSE WITH
COMPANIES PROVIDING SHORT-TERM WORKERS**

Any worker of your company, upon entering a school building in Dayton School District, shall register at the administrative office at the School. Your employees shall announce themselves and request to review the Management Plan for asbestos-containing materials. Upon this review they must sign a statement that the Management Plan has been reviewed. If the worker will contact asbestos-containing materials they shall have proof of training. Any potential contact with asbestos-containing materials will be discussed with the district asbestos coordinator prior to continuing with the work. If there is any doubt as to the location or training required or procedures, the district asbestos coordinator is to be contacted.

Consult with legal counsel prior to use of this clause.

NOTIFICATION ADDRESSES

Fill in the names of organizations you will be sending notifications to as a reference.

PARENT GROUPS

NAME: _____

NAME: _____

ADDRESS: _____

ADDRESS: _____

TEACHER ORGANIZATIONS

NAME: _____

NAME: _____

ADDRESS: _____

ADDRESS: _____

EMPLOYEE GROUPS OR UNIONS

NAME: _____

NAME: _____

ADDRESS: _____

ADDRESS: _____

IF ORGANIZATIONS DO NOT EXIST A NEWSPAPER NOTICE MAY BE UTILIZED.

SAMPLE NOTIFICATION LETTER 'A'

(Initial Management Plan Notice)

Date

Organization
Address

To Whom It May Concern:

A survey of all our school buildings was conducted to determine the location and condition of asbestos-containing materials. A Management Plan was then developed to reflect the conditions encountered. The plan indicates the preventative measures and response actions we will be implementing to make our schools as safe as possible.

NOTE: You may wish to insert the Inspection Summary found in TAB 5 Page 3.1 for each school in the district.

The plan for all schools is available for review at our central administrative office and for individual schools during normal office hours, at each school administrative office.

If a personal copy is desired, please notify me and it will be available for the cost of reproduction (\$10) and available in 5 working days.

Asbestos-containing materials in our schools is a top priority and we are doing everything possible to ensure the well-being of the occupants.

I am available to answer any of your questions or concerns.

Sincerely,

LEA Designate

SAMPLE NOTIFICATION LETTER 'B'

(Annual Notice)

Date

Organization
Address

To Whom It May Concern:

Our district has implemented our Management Plan for asbestos-containing materials. Cleaning, preventative measures, training and periodic surveillance have been performed on an ongoing basis.

Response action that has been completed include:

School	Action	Material	Location	Dates Start	Stop
(list all activities)					

Response actions that are scheduled for the next year:

School	Action	Material	Location	Dates Start	Stop
(list all activities)					

We are following the schedule of response actions as defined in our Management Plan. This plan is available at the central administrative office and at each individual school for review. If you desire a personal copy, please give us 5 days notice. The cost is \$10 to cover reproduction.

The ongoing job of maintaining asbestos-containing materials is being conducted in the most stringent manner for the safest possible school buildings. I am available to address your questions.

Sincerely,

LEA Designate

TAB 16
Recordkeeping

16.1.1 Recordkeeping

ACTION: All asbestos-related activities must be recorded.

TRAINING: LEA Designate must ensure that program is enacted and maintained.

FORMS: Understand how to use all the recordkeeping forms.

The purpose of the record-keeping system is three-fold:

- To ensure maximum protection of all persons in the building.
- To provide detailed, retrievable records of all events.
- To provide the needed records in event of a lawsuit.

In essence, the AHERA regulations required that everything done with regards to asbestos in a facility must be documented by the facility's owner so that the training and exposure of all persons involved in the work can be documented and the fate of all ACBM can be determined.

The recordkeeping requirements described in 40 CFR 763.94 are quite explicit in regard to the LEA's recordkeeping responsibilities. Although some records are required to be kept up to six years, they may be required beyond six years (as long as 20 to 40 years) in the event of a lawsuit. Thus, all records should be maintained in a retrievable state for up to 40 years (or let's just say don't ever throw them away).

Location: Records must be kept in the administrative offices of both the actual building and the LEA. If these are in the same building, it is advisable that a duplicate set of records should be established in a different location in the event of fire or other damage.

The following activities or occurrences require detailed documentation. A brief description is given here. Refer to the appropriate TAB number in the Management Plan for exact AHERA requirements and sample forms for compiling information. There are three forms included in this section that can be used for the following records. The forms are included in this section.

	FORM	
Response Actions Selected: records of all preventative measures, major abatement activities.	A	TAB NO. 7
Periodic Surveillance: conducted at a minimum of six-month intervals to determine any damage or deterioration of ACBM.	B	TAB NO. 10
Reinspection: conducted every three years by an accredited inspector.	--	TAB NO. 11
Operations and Maintenance: initial, periodic, and emergency cleanings; minor and major fiber release episodes; maintenance procedures for ACBM.	A	TAB NO. 12
Medical Surveillance: annual examination of any person who will contact ACBM in their work. Keep copies of examination forms.	--	TAB NO. 13

Training: 2-hour awareness training for all custodial staff, 14 hours additional for those who will disturb ACBM; recommended annually. C TAB NO. 14

Plan distribution/notification: annual notice to parents, teachers, and staff of availability of management plan. Keeping a copy of the notices will be sufficient record. -- TAB NO. 15

Every preventative measure or response action taken for friable and non-friable ACBM or suspected ACBM must include these records (see Forms that follow):

Description of the measure or action:

- Methods used
- Location
- Reasons for selecting the measure or action
- Start and completion dates
- Name and addresses of contractors, state of accreditation, accreditation numbers
- Name and location of ACBM storage or disposal site

If air monitoring is required by 40 CFR 763.90 (f):

- Name, signature of air monitoring technician
- Date and locations of air sampling
- Name and address of laboratory analyzing the samples
- A statement that the lab meets 40 CFR 763.90 (i) 2 (ii)
- Date, method, and results of analysis
- Signature of analyst

For all homogeneous areas where ACBM been removed, the LEA is required to maintain records for three years after the subsequent reinspection or until the second reinspection after the removal activity (up to 6 years). PBS recommends that these records be kept permanently.

TAB 17

**Statement of Review
LEA Designate Review/Signature**

17.1.1 Statement of Review – LEA Designate Review/Signature

LOCAL EDUCATION AGENCY (LEA) GENERAL RESPONSIBILITIES UNDER AHERA

Portent to Section 763.84 and Section 763.93 of the EPA Asbestos in Schools Regulation (45 CFR Part 763), each management plan must contain a true and correct statement, signed by the LEA designated person, that certifies that the general LEA responsibilities have been met. This form is provided to assist you in complying with this portion of AHERA.

LEA Name: _____
LEA Address: _____
Designated Person Name: _____
Designated Person Address: _____
Phone Number: _____

ASSURANCES

1. This AHERA management plan was developed and has been submitted pursuant to the Asbestos Hazard Emergency Response Act of 1986, Public law 99-519; and the United States Environmental Protection Agency Rule: Asbestos Containing Materials in Schools, 40 CFR Part 763; and the undersigned does hereby certify that the LEA has and will endure the following:
2. The activities of any persons, who perform inspections, reinspections, and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with Part 763.
3. All custodial and maintenance employees will be properly trained as required in Part 763 and all other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration Asbestos Standard for Construction, the EPA Worker Protection Rule, or applicable State regulations).
4. All workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, post-response action activities, including periodic reinspection and surveillance activities, that are planned or in progress.
5. All short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACBM and suspected ACBM to be ACM.
6. All warning labels are posted in accordance with Section 763.95.
7. All management plans are available for inspection and notification of such availability has been provided as specified in the management plan under Section 763.93(g).
8. The undersigned person designated by the LEA pursuant to Section 763.84(g)(1) has received adequate training as stipulated in Section 763.84(g)(2).
9. The LEA has and will consider whether any conflict of interest may arise from the interrelationship among accredited personnel and whether that should influence the selection of accredited personnel to perform activities under Part 763.

Signed _____ Date _____

LEA Designated Person, pursuant to 40
CFR 763.93(l) and 763.84