



OSU received 4/24/23.

Asbestos and Lead Paint Survey Report

Aero Engineering Lab Building

Oregon State University

Corvallis, Oregon

Prepared for:

Oregon State University

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Laboratory Data	Not Numbered
Inspector Certification	Not Numbered

April 2023
Project No.: 52698.006

GENERAL INFORMATION

BUILDING DATA

Aero Engineering Lab Building
Oregon State University
Corvallis, Oregon

CLIENT DATA

OSU Facilities Services
129 Oak Creek Building
3015 SW Western Boulevard
Corvallis, Oregon 97333

Year(s) Built: - 1954

PBS Engineering and Environmental, Inc. (PBS) has performed a hazardous building materials survey of the Aero Engineering Lab Building located on the Oregon State University Campus in Corvallis, Oregon. The scope of work included a comprehensive asbestos and lead paint survey of all accessible interior and exterior areas of the building. The survey was performed in general accordance with OSHA regulations in 29 CFR 1910.1001 and Oregon Department of Environmental Quality (DEQ) regulations in OAR 340-248-0270. Based on the information gathered during the site inspection and laboratory analysis, this report contains the following information:

- A summary of asbestos-containing materials discovered during the inspection, including a material description and location of each identified asbestos-containing material (ACM);
- A summary of lead paint sampling;
- A sample inventory listing the sample number, location, material description, and laboratory results for each sample;
- Laboratory analysis reports and chain of custody documentation;
- Inspector(s) Certification

SURVEY SCOPE

Asbestos

PBS endeavored to locate all suspect asbestos-containing materials within accessible areas of the building; however, additional suspect asbestos-containing materials may be concealed in areas that were inaccessible during the survey. If additional suspect materials are uncovered during renovation or demolition activities that are not identified in this report, testing should be performed prior to impact. This survey was conducted to identify and sample accessible suspect asbestos-containing building materials and it is not considered an exhaustive survey of every building material.

Lead Paint

PBS collected bulk samples from representative painted surfaces from the building interior and exterior. The samples were analyzed for lead using FAA (flame atomic absorption). No attempt was made to determine the paint history of the components that were sampled. The lead paint testing conducted

during this survey was for site lead hazard characterization purposes and was not a surface-by-surface inspection of every painted building component.

Certification

PBS has conducted a physical inspection of the Aero Engineering Lab Building located on the Oregon State University Campus in Corvallis, Oregon, 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.

Aaron LeFore
Inspector/Asbestos Project Designer
Accreditation: IRO-23-7318B

Signature

Date

INSPECTION SUMMARY

DATES	SURVEYED BY	ACTIVITY
April 13, 2023	Aaron LeFore	Materials Inventory and Bulk Sample Collection

PBS Engineering and Environmental, Inc. has investigated accessible areas of the lab building located at Oregon State University to locate suspect asbestos-containing building materials (ACBM). The scope of work was limited to interior and exterior accessible areas. The findings are listed below.

ASBESTOS MATERIALS

The following materials 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

Result	Material	Location	Detail
(-/+)	Gypsum Wallboard, white sandy texture/Joint Compound, white with joint tape	H100, walls and ceiling Room 100, walls and ceiling	854 SF/Non-Friable
(+)	Window Glazing Compound, white and grey ¹	Shop Space 102, North & South windows	5 EA/Non-Friable

NOTES:

1. Window assemblies measure 4' x14'

MATERIALS WHICH 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.

Material	Location
Carpet Mastic, Yellow and clear	Room 100 & 100A throughout
Covebase, 4" black/Mastic, brown brittle	Entry H100, Room 100 & 100A throughout
Expansion Joint Material, black asphaltic	Shop Space 102, at expansion joint at center floor

Material	Location
Sealant, grey rubbery	Shop Space 104, on rectangular exhaust ducting

All asbestos bulk samples were collected by an EPA AHERA accredited inspector and analyzed using Polarized Light Microscopy (PLM) with dispersion staining. Samples were submitted under chain of custody to NVL Labs in Seattle, WA (NVLAP # 102063-0) for analysis. The laboratory analysis reports are attached to this report.

Asbestos Regulatory Issues

The State of Oregon Department of Environmental Quality (DEQ) and United States Environmental Protection Agency (EPA) regulations require proper removal and handling of asbestos-containing building materials (ACBM) by a licensed and trained asbestos abatement contractor prior to the renovation or demolition of buildings. In addition, Oregon-OSHA has specific requirements when workers may encounter or disturb ACBM or when ACBM is removed.

The EPA, DEQ, and OSHA all define ACBM as "any material containing more than one percent asbestos."

In 1994, Oregon-OSHA adopted federal regulation governing asbestos (29CFR Part 1926.1101). These regulations have made significant changes in work procedures and how asbestos-containing materials are removed. OSHA believes that the single biggest problem is to workers who unknowingly or improperly disturb ACBM. Hazard communication, training, personal protection, work practices, exposure monitoring, and recordkeeping are all major components of the regulation. Oregon Administrative Rules-340, Division 32 and 33, also covers asbestos abatement requirements, removal notifications, licensing, and certifications of contractors.

Reference documents for the removal of asbestos-containing materials include the following:

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

LEAD-CONTAINING PAINT

Lead Paint Summary

Paint chip samples were collected from representative interior and exterior painted building components. The samples represent the facility's major painted building components. The samples were submitted to NVL Laboratories, Inc. in Seattle, Washington (AIHA #101861) and analyzed for lead content by atomic absorption.

Laboratory analytical results indicated the presence of lead in 4 of the 6 paint-chip samples collected, with concentrations ranging from 210 to 20,000 parts per million (ppm). Refer to the attached lead sample inventory for additional details regarding sample locations and laboratory analytical results. For

reference, the Environmental Protection Agency (EPA) uses 5,000 ppm as the threshold limit for the definition of lead-based paint. Under OSHA, any amount of lead triggers the OSHA Lead in Construction Standard. Lead safe work practices should always be employed when impacting paint that contains lead in any concentration.

A summary of painted surfaces in which lead was detected is presented in the table below:

Location (Feature)	Material Substrate and Paint Color
Interior Support Beam*	Paint, Green on metal substrate
Shop Space 102 Door	Paint, White on metal substrate
Exterior Door Frame	Paint, Dark Brown & Green on metal substrate
Exterior Wall	Paint, Beige on metal substrate

*Lead-based paint (exceeds 5,000 ppm)

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.

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
52698.006-0001	Gypsum Wallboard/Joint Compound	H100 vestibule at door		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	White compacted powdery material with paint	2% Chrysotile
		Layer 2	White compacted powdery material with paper	3% Chrysotile
		Layer 3	White chalky material with paper	No Asbestos Detected
52698.006-0002	Gypsum Wallboard/Joint Compound	Room 100 at northwest corner		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	White compacted powdery material with paint	2% Chrysotile
		Layer 2	White compacted powdery material with paper	2% Chrysotile
		Layer 3	White chalky material with paper	No Asbestos Detected
52698.006-0003	Gypsum Wallboard/Joint Compound	Room 100 at southwest corner		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	White compacted powdery material	2% Chrysotile
		Layer 2	White compacted powdery material with paper	2% Chrysotile
		Layer 3	White chalky material with paper	No Asbestos Detected
52698.006-0004	Carpet Mastic	Room 100 at door threshold		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	Yellow soft mastic	No Asbestos Detected
52698.006-0005	Carpet Mastic	Room 100 at center floor		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	Yellow soft mastic	No Asbestos Detected
		Layer 2	Clear soft adhesive with debris	No Asbestos Detected
52698.006-0006	Carpet Mastic	Room 100 at South wall under desk		NVL Labs, Inc.
		Layer:	Description:	Analysis:
		Layer 1	Yellow soft mastic	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
52698.006-0007	Carpet Mastic	Room 100A at threshold		NVL Labs, Inc.	
		Layer: Layer 1	Description: Multicolored fibrous material with white fibrous mesh and white mastic		Analysis: No Asbestos Detected
		Layer 2	Yellow brittle mastic		No Asbestos Detected
52698.006-0008	Covebase/Mastic	H100 vestibule at door		NVL Labs, Inc.	
		Layer: Layer 1	Description: Black rubbery material		Analysis: No Asbestos Detected
		Layer 2	Brown brittle mastic		No Asbestos Detected
		Layer 3	White chalky material with paper		No Asbestos Detected
52698.006-0009	Covebase/Mastic	Room 100 at northwest corner		NVL Labs, Inc.	
		Layer: Layer 1	Description: Black rubbery material		Analysis: No Asbestos Detected
		Layer 2	Brown brittle mastic		No Asbestos Detected
		Layer 3	White chalky material with paper		No Asbestos Detected
52698.006-0010	Covebase/Mastic	Room 100A at East wall		NVL Labs, Inc.	
		Layer: Layer 1	Description: Black rubbery material		Analysis: No Asbestos Detected
		Layer 2	Yellow soft mastic		No Asbestos Detected
		Layer 3	Brown brittle mastic		No Asbestos Detected
52698.006-0011	Expansion Joint Material	Shop Space 102 at center seam		NVL Labs, Inc.	
		Layer: Layer 1	Description: Black asphaltic fibrous material		Analysis: No Asbestos Detected
52698.006-0012	Expansion Joint Material	Shop Space 102 at North seam		NVL Labs, Inc.	
		Layer: Layer 1	Description: Black asphaltic fibrous material		Analysis: No Asbestos Detected
52698.006-0013	Expansion Joint Material	Shop Space 102 at South seam		NVL Labs, Inc.	
		Layer: Layer 1	Description: Black asphaltic fibrous material		Analysis: No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
52698.006-0014	Window Glazing Compound	Shop space 102 at North windows		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	White crumbly material		No Asbestos Detected
		Layer 2	Trace amount of gray crumbly material	2% Chrysotile	
52698.006-0015	Window Glazing Compound	Shop space 102 at North windows		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	White crumbly material		No Asbestos Detected
		Layer 2	Gray crumbly material	3% Chrysotile	
52698.006-0016	Window Glazing Compound	Shop space 102 at South windows		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	White crumbly material		No Asbestos Detected
		Layer 2	Gray crumbly material	2% Chrysotile	
52698.006-0017	Sealant	Shop space 104, on rectangular ducting		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Gray soft elastic material	No Asbestos Detected	
52698.006-0018	Sealant	Shop space 104, on rectangular ducting		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Gray soft elastic material	No Asbestos Detected	
52698.006-0019	Sealant	Shop space 104, on rectangular ducting		NVL Labs, Inc.	
		Layer:	Description:		Analysis:
		Layer 1	Gray soft elastic material	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Analysis</u>	<u>Location</u>	<u>Lab</u>
PAINT				
LB52698.006-1001	Paint, Green	20,000 ppm	Interior support beam, on metal substrate	NVL Labs, Inc.
LB52698.006-1002	Paint, White	<48 ppm	H100 wall, on gypsum substrate	NVL Labs, Inc.
LB52698.006-1003	Paint, Orange	<84 ppm	H100 door, on metal substrate	NVL Labs, Inc.
LB52698.006-1004	Paint, White	330 ppm	Shop space 102 door, on metal substrate	NVL Labs, Inc.
LB52698.006-1005	Paint, Dark Brown and Green	4,200 ppm	Exterior door frame, on metal substrate	NVL Labs, Inc.
LB52698.006-1006	Paint, Beige	210 ppm	Exterior wall, on metal substrate	NVL Labs, Inc.

April 13, 2023



Aaron Lefore
PBS Environmental - Eugene
3500 Chad Drive Suite 100
Eugene, OR 97408

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2305754.00

Client Project: 52698.006 Phase 0001
Location: OSU Aerospace Engineering Lab

Dear Mr. Lefore,

Enclosed please find test results for the 19 sample(s) submitted to our laboratory for analysis on 4/11/2023.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with **U. S. EPA 40 CFR Appendix E to Subpart E of Part 763**, 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 "Nick Ly".

Nick Ly, Technical Director

The logo for NVL LABS, featuring the letters "NVL" in a large, outlined, sans-serif font, with "LABS" in a smaller, outlined, sans-serif font to its right.

Testing

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 - Eugene
Address: 3500 Chad Drive Suite 100
Eugene, OR 97408

Batch #: 2305754.00
Client Project #: 52698.006 Phase 0001
Date Received: 4/11/2023
Samples Received: 19
Samples Analyzed: 19
Method: EPA/600/R-93/116

Attention: Mr. Aaron Lefore
Project Location: OSU Aerospace Engineering Lab

Lab ID: 23035106 Client Sample #: 52698.006-0001

Location: OSU Aerospace Engineering Lab

Layer 1 of 3	Description: White compacted powdery material with paint			Asbestos Type: % Chrysotile 2%
		Non-Fibrous Materials:	Other Fibrous Materials:%	
	Binder/Filler, Fine grains, Fine particles		None Detected ND	

Paint

Layer 2 of 3	Description: White compacted powdery material with paper			Asbestos Type: % Chrysotile 3%
		Non-Fibrous Materials:	Other Fibrous Materials:%	
	Binder/Filler, Fine grains, Fine particles		Cellulose 11%	

Layer 3 of 3	Description: White chalky material with paper			Asbestos Type: % None Detected ND
		Non-Fibrous Materials:	Other Fibrous Materials:%	
	Gypsum/Binder, Fine grains, Calcareous particles		Cellulose 15%	

Glass fibers 6%


Lab ID: 23035107 Client Sample #: 52698.006-0002

Location: OSU Aerospace Engineering Lab

Layer 1 of 3	Description: White compacted powdery material with paint			Asbestos Type: % Chrysotile 2%
		Non-Fibrous Materials:	Other Fibrous Materials:%	
	Binder/Filler, Fine grains, Fine particles		None Detected ND	

Paint

Layer 2 of 3	Description: White compacted powdery material with paper			Asbestos Type: % Chrysotile 2%
		Non-Fibrous Materials:	Other Fibrous Materials:%	
	Binder/Filler, Fine grains, Fine particles		Cellulose 14%	

Sampled by: Client		
Analyzed by: Akane Yoshikawa	Date: 04/13/2023	
Reviewed by: Nick Ly	Date: 04/13/2023	

Nick Ly, Technical Director

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 EPA 40 CFR Appendix E to Subpart E of Part 763 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 - Eugene
Address: 3500 Chad Drive Suite 100
Eugene, OR 97408

Batch #: 2305754.00

Client Project #: 52698.006 Phase 0001

Date Received: 4/11/2023

Samples Received: 19

Samples Analyzed: 19

Method: EPA/600/R-93/116

Attention: Mr. Aaron Lefore
Project Location: OSU Aerospace Engineering Lab

Layer 1 of 2	Description: Yellow soft mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 2 of 2	Description: Clear soft adhesive with debris	Non-Fibrous Materials: Adhesive/Binder, Fine particles, Debris	Other Fibrous Materials:% Cellulose 4% Synthetic fibers 2%	Asbestos Type: % None Detected ND

Lab ID: 23035111 Client Sample #: 52698.006-0006

Location: OSU Aerospace Engineering Lab

Layer 1 of 1	Description: Yellow soft mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% Cellulose 3%	Asbestos Type: % None Detected ND
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Lab ID: 23035112 Client Sample #: 52698.006-0007

Location: OSU Aerospace Engineering Lab

Layer 1 of 2	Description: Multicolored fibrous material with white fibrous mesh and white mastic	Non-Fibrous Materials: Mastic/Binder, Fine grains, Fine particles	Other Fibrous Materials:% Synthetic fibers 49%	Asbestos Type: % None Detected ND
Layer 2 of 2	Description: Yellow brittle mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% Cellulose 2%	Asbestos Type: % None Detected ND

Lab ID: 23035113 Client Sample #: 52698.006-0008

Location: OSU Aerospace Engineering Lab

Layer 1 of 3	Description: Black rubbery material	Non-Fibrous Materials: Vinyl/Binder, Fine particles	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
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Sampled by: Client

Analyzed by: Akane Yoshikawa

Reviewed by: Nick Ly

Date: 04/13/2023

Date: 04/13/2023

Nick Ly, Technical Director

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 EPA 40 CFR Appendix E to Subpart E of Part 763 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 - Eugene
 Address: 3500 Chad Drive Suite 100
 Eugene, OR 97408

Batch #: 2305754.00
 Client Project #: 52698.006 Phase 0001
 Date Received: 4/11/2023
 Samples Received: 19
 Samples Analyzed: 19
 Method: EPA/600/R-93/116

Attention: Mr. Aaron Lefore
 Project Location: OSU Aerospace Engineering Lab

Layer 2 of 3	Description: Brown brittle mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 3 of 3	Description: White chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Fine grains, Calcareous particles	Other Fibrous Materials:% Cellulose 16% Glass fibers 5%	Asbestos Type: % None Detected ND


Lab ID: 23035114 **Client Sample #: 52698.006-0009**
 Location: OSU Aerospace Engineering Lab

Layer 1 of 3	Description: Black rubbery material	Non-Fibrous Materials: Vinyl/Binder, Fine particles	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 2 of 3	Description: Brown brittle mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 3 of 3	Description: White chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Fine grains, Calcareous particles	Other Fibrous Materials:% Cellulose 14% Glass fibers 7%	Asbestos Type: % None Detected ND

Lab ID: 23035115 **Client Sample #: 52698.006-0010**
 Location: OSU Aerospace Engineering Lab

Layer 1 of 3	Description: Black rubbery material	Non-Fibrous Materials: Vinyl/Binder, Fine particles	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
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Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 04/13/2023
Reviewed by: Nick Ly **Date:** 04/13/2023



 Nick Ly, Technical Director

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 EPA 40 CFR Appendix E to Subpart E of Part 763 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

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Client: PBS Environmental - Eugene
Address: 3500 Chad Drive Suite 100
Eugene, OR 97408

Batch #: 2305754.00

Client Project #: 52698.006 Phase 0001

Date Received: 4/11/2023

Samples Received: 19

Samples Analyzed: 19

Method: EPA/600/R-93/116

Attention: Mr. Aaron Lefore

Project Location: OSU Aerospace Engineering Lab

Layer 2 of 3	Description: Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Fine particles	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: 23035116 Client Sample #: 52698.006-0011

Location: OSU Aerospace Engineering Lab

Layer 1 of 1	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Wood flakes	Cellulose 86%		None Detected ND

Lab ID: 23035117 Client Sample #: 52698.006-0012

Location: OSU Aerospace Engineering Lab

Layer 1 of 1	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Wood flakes	Cellulose 89%		None Detected ND

Lab ID: 23035118 Client Sample #: 52698.006-0013

Location: OSU Aerospace Engineering Lab

Layer 1 of 1	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Wood flakes	Cellulose 84%		None Detected ND

Lab ID: 23035119 Client Sample #: 52698.006-0014

Location: OSU Aerospace Engineering Lab

Comments: Small sample size (Layer 2).

Sampled by: Client

Analyzed by: Akane Yoshikawa

Reviewed by: Nick Ly

Date: 04/13/2023

Date: 04/13/2023

Nick Ly, Technical Director

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 EPA 40 CFR Appendix E to Subpart E of Part 763 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 - Eugene
Address: 3500 Chad Drive Suite 100
Eugene, OR 97408

Batch #: 2305754.00
Client Project #: 52698.006 Phase 0001
Date Received: 4/11/2023
Samples Received: 19
Samples Analyzed: 19
Method: EPA/600/R-93/116

Attention: Mr. Aaron Lefore
Project Location: OSU Aerospace Engineering Lab

Layer 1 of 2	Description: White crumbly material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Fine grains, Fine particles	None Detected ND	None Detected ND
Layer 2 of 2	Description: Trace amount of gray crumbly material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Fine grains, Fine particles	None Detected ND	Chrysotile 2%

Lab ID: 23035120 Client Sample #: 52698.006-0015

Location: OSU Aerospace Engineering Lab

Layer 1 of 2	Description: White crumbly material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Fine grains, Fine particles	None Detected ND	None Detected ND
Layer 2 of 2	Description: Gray crumbly material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Fine grains, Fine particles	None Detected ND	Chrysotile 3%


Lab ID: 23035121 Client Sample #: 52698.006-0016

Location: OSU Aerospace Engineering Lab

Layer 1 of 2	Description: White crumbly material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Fine grains, Fine particles	None Detected ND	None Detected ND
Layer 2 of 2	Description: Gray crumbly material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Fine grains, Fine particles	None Detected ND	Chrysotile 2%

Lab ID: 23035122 Client Sample #: 52698.006-0017

Location: OSU Aerospace Engineering Lab

Sampled by: Client		
Analyzed by: Akane Yoshikawa	Date: 04/13/2023	
Reviewed by: Nick Ly	Date: 04/13/2023	
		Nick Ly, Technical Director

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 EPA 40 CFR Appendix E to Subpart E of Part 763 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 - Eugene
Address: 3500 Chad Drive Suite 100
Eugene, OR 97408

Batch #: 2305754.00
Client Project #: 52698.006 Phase 0001
Date Received: 4/11/2023
Samples Received: 19
Samples Analyzed: 19
Method: EPA/600/R-93/116

Attention: Mr. Aaron Lefore
Project Location: OSU Aerospace Engineering Lab

Layer 1 of 1	Description: Gray soft elastic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Polyethylene fibers 13%		None Detected ND

Lab ID: 23035123 **Client Sample #: 52698.006-0018**


Location: OSU Aerospace Engineering Lab

Layer 1 of 1	Description: Gray soft elastic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Polyethylene fibers 7%		None Detected ND

Lab ID: 23035124 **Client Sample #: 52698.006-0019**

Location: OSU Aerospace Engineering Lab

Layer 1 of 1	Description: Gray soft elastic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Polyethylene fibers 8%		None Detected ND

Sampled by: Client		
Analyzed by: Akane Yoshikawa	Date: 04/13/2023	
Reviewed by: Nick Ly	Date: 04/13/2023	Nick Ly, Technical Director

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 EPA 40 CFR Appendix E to Subpart E of Part 763 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 - Eugene	NVL Batch Number 2305754.00
Address 3500 Chad Drive Suite 100 Eugene, OR 97408	TAT 3 Days AH No
Project Manager Mr. Aaron Lefore	Rush TAT
Phone (541) 686-8684	Due Date 4/14/2023 Time 9:10 AM
	Email aaron.lefore@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 52698.006 Phase 0001 **Project Location:** OSU Aerospace Engineering Lab

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

Total Number of Samples 19 **Rush Samples** _____

Lab ID	Sample ID	Description	A/R
1	23035106	52698.006-0001	A
2	23035107	52698.006-0002	A
3	23035108	52698.006-0003	A
4	23035109	52698.006-0004	A
5	23035110	52698.006-0005	A
6	23035111	52698.006-0006	A
7	23035112	52698.006-0007	A
8	23035113	52698.006-0008	A
9	23035114	52698.006-0009	A
10	23035115	52698.006-0010	A
11	23035116	52698.006-0011	A
12	23035117	52698.006-0012	A
13	23035118	52698.006-0013	A
14	23035119	52698.006-0014	A
15	23035120	52698.006-0015	A
16	23035121	52698.006-0016	A
17	23035122	52698.006-0017	A
18	23035123	52698.006-0018	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				

	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/11/23	910
Analyzed by	Akane Yoshikawa		NVL	4/13/23	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: Please include results in electronic (csv) format.

Date: 4/11/2023
 Time: 10:04 AM
 Entered By: Kelly AuVu

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Eugene Address 3500 Chad Drive Suite 100 Eugene, OR 97408 Project Manager Mr. Aaron Lefore Phone (541) 686-8684	NVL Batch Number 2305754.00 TAT 3 Days AH No Rush TAT Due Date 4/14/2023 Time 9:10 AM Email aaron.lefore@pbsusa.com Fax (866) 727-0140
---	--

Project Name/Number: 52698.006 Phase 0001 **Project Location:** OSU Aerospace Engineering Lab

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

Total Number of Samples 19 **Rush Samples** _____

Lab ID	Sample ID	Description	A/R
19	23035124	52698.006-0019	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/11/23	910
Analyzed by	Akane Yoshikawa		NVL	4/13/23	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: Please include results in electronic (csv) format.

Date: 4/11/2023
 Time: 10:04 AM
 Entered By: Kelly AuVu



2305754

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 52698.006 Phase 0001 OSU Aerospace Engineering Lab

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: April 10, 2023

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

Auron LeForc
Name

Authorized Signature Date Time
4/10/23 12:30

RECEIVER

Date Received: 4/11/23

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

Kellin Aden
Name

Authorized Signature Date Time
4/11/23 9:07 AM

Sender's ID No.

Brief Description

Receiver's ID No.

Table with 3 columns: Sender's ID No., Brief Description, Receiver's ID No. Rows 52698.006-0001 to 52698.006-0014.



TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

52698.006-0015	_____	_____
52698.006-0016	_____	_____
52698.006-0017	_____	_____
52698.006-0018	_____	_____
52698.006-0019	_____	_____

Please analyze the enclosed 19 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: **72 Hour**

SPECIAL INSTRUCTIONS:
Please include results in electronic (csv) format.
please email results to aaron.lefore@pbsusa.com Thanks!

April 12, 2023

Aaron Lefore

PBS Environmental - Eugene

3500 Chad Drive Suite 100
Eugene, OR 97408



NVL Batch # 2305752.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 52698.006 Phase 0001
Location: OSU Aerospace Engineering Lab

Dear Mr. Lefore,

NVL Labs received 6 sample(s) for the said project on 4/11/2023. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

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

Shalini Patel, Manager Metals Lab

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

Analysis Report

Total Lead (Pb)



Client: PBS Environmental - Eugene
Address: 3500 Chad Drive Suite 100
Eugene, OR 97408

Batch #: 2305752.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 52698.006 Phase 0001
Date Received: 4/11/2023
Samples Received: 6
Samples Analyzed: 6

Attention: Mr. Aaron Lefore
Project Location: OSU Aerospace Engineering Lab

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
23035100	LB52698.006-1001	0.1016	98	20000	2.0
23035101	LB52698.006-1002	0.2090	48	< 48	<0.0048
23035102	LB52698.006-1003	0.1190	84	< 84	<0.0084
23035103	LB52698.006-1004	0.1620	62	330	0.033
23035104	LB52698.006-1005	0.2050	49	4200	0.42
23035105	LB52698.006-1006	0.1805	55	210	0.021


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 04/12/2023

Date Issued: 04/12/2023


Shalini Patel, Manager Metals Lab

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Bench Run No: 2023-0412-02

FAA-02

LEAD LABORATORY SERVICES



Company PBS Environmental - Eugene
Address 3500 Chad Drive Suite 100
 Eugene, OR 97408
Project Manager Mr. Aaron Lefore
Phone (541) 686-8684
NVL Batch Number **2305752.00**
TAT 3 Days **AH** No
Rush TAT
Due Date 4/14/2023 **Time** 9:10 AM
Email aaron.lefore@pbsusa.com
Fax (866) 727-0140

Project Name/Number: 52698.006 Phase 0001
Project Location: OSU Aerospace Engineering Lab

Subcategory Flame AA (FAA)
Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 6 **Rush Samples** _____

	Lab ID	Sample ID	Description	A/R
1	23035100	LB52698.006-1001		A
2	23035101	LB52698.006-1002		A
3	23035102	LB52698.006-1003		A
4	23035103	LB52698.006-1004		A
5	23035104	LB52698.006-1005		A
6	23035105	LB52698.006-1006		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/11/23	910
Analyzed by	Yasuyuki Hida		NVL	4/12/23	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 4/11/2023
 Time: 10:02 AM
 Entered By: Kelly AuVu



TRANSMITTAL AND CHAIN OF CUSTODY FOR LEAD BULK SAMPLES

Project No.: 52698.006 Phase 0001 OSU Aerospace Engineering Lab

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: April 10, 2023

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

Aaron Lefore
Name

[Signature]
Authorized Signature

4/10/23
Date

RECEIVER

Date Received: 4/11/23

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

[Signature]
Name

[Signature] NVL 4/11/23 910767
Authorized Signature Date

Table with 3 columns: Sender's ID No., Brief Description, Receiver's ID No. Rows include sample IDs LB52698.006-1001 through 1006.

ANALYSIS REQUESTED: LEAD: [X] Paint, [] Wipe, [] Soil/Misc., [] Air, [] TCLP

Please analyze the enclosed 6 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:

72 Hour

SPECIAL INSTRUCTIONS: please email results to aaron.lefore@pbsusa.com Thanks!

THIS IS TO CERTIFY THAT

AARON LEFORE

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

ONLINE AHERA ASBESTOS INSPECTOR REFRESHER

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

Course Date: 03/16/2023

Course Location: Online

Certificate: IRO-23-7318B



CCB #SRA0615 4-Hr Training

4-Hour Online AHERA Inspector Refresher Training; AHERA is the Asbestos Hazard Emergency Response Act enacting Title II of Toxic Substance Control Act (TSCA)

Expiration Date: 03/16/2024

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