

# **Hazardous Materials Survey Report**

Lakewood Library  
6300 Wildaire Road SW  
Lakewood, Washington 98499

Prepared for:  
Pierce County Library System  
3005 112<sup>th</sup> Street  
Tacoma, Washington 98446

October 17, 2022  
PBS Project 41854.000



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## 1 INTRODUCTION

### 1.1 Project Background

PBS Engineering and Environmental Inc. (PBS) performed a hazardous materials survey of the Lakewood Library, at 6300 Wildaire Road Southwest, in Lakewood, Washington. The intent of this investigation is to ensure compliance with applicable regulatory requirements that a "good faith inspection" for asbestos-containing materials (ACMs) be performed prior to renovation or demolition activities.

All accessible areas of the building were inspected for the presence of ACMs, lead-containing paint (LCP), mercury containing components, and polychlorinated biphenyls (PCBs).

### 1.2 Building Descriptions

The Lakewood Library is a two-story brick and mortar structure with two basements, constructed in 1963 with an addition in 1974 and renovations in 1994 and 2006. Interior finishes consist of the following: concrete, ceramic floor tile, vinyl floor tile, sheet vinyl flooring, and carpet. Walls consist of plaster, cement masonry unit (CMU), brick and mortar, and gypsum wallboard. Ceilings finishes include suspended ceiling tiles and popcorn ceiling texture. Exterior finishes include brick and mortar, "Marble Crete", and plaster soffits. Windows are metal- framed; the roof is pitched with composition shingles.

### 1.3 Survey Process

Accessible areas included in the project scope were inspected by Asbestos Hazard Emergency Response Act (AHERA) Certified Building Inspector Claire Tsai (Cert. No. IR-21-7316B Exp. 12/10/2022) on September 27, 28 and October 3, 2022. PBS endeavored to inspect all accessible areas of the scope of work. Inaccessible areas consist of those requiring selective demolition, fall protection, or confined space entry protocols to gain access.

When observed, suspect materials were sampled. One hundred and ten (110) samples were assigned a unique identification number and transmitted for analysis to Seattle Asbestos Test (NVLAP #200768-0) in Lynwood, Washington under chain-of-custody protocols. Samples were analyzed according to EPA Method 600R-93/116 using Polarized Light Microscopy (PLM), which has a reliable limit of quantification of 1% asbestos by volume.

PBS endeavored to determine the presence and estimate the condition of suspect materials in all inaccessible areas included in the scope of work. ACMs may be found in concealed locations; additional unidentified ACMs may exist.

## 2 FINDINGS

### 2.1 Asbestos-Containing Materials (ACMs)

Regulated asbestos-containing building materials are defined by EPA as containing greater than 1% asbestos by weight.

The following materials were sampled and found to contain **greater than 1%** asbestos:

- **Black mastic** associated with non-ACM 12" grey vinyl floor tile – west basement: storage rooms, server closet and custodian room, present below casework (Approximately 650 SF)
- **Black mastic** associated with non-ACM beige vinyl floor tile – Storage 110 (Approximately 50 SF)
- **Black mastic** associated with non-ACM beige vinyl floor tile under non-ACM sheet vinyl flooring – lounge kitchen (Approximately 150 SF)

- **Black speaker box mastic** – West basement, Room 207, 208, 209, 215, 217, 218, Lounge 202, and north elevation near main entrance (Approximately 13 EA)
- **Brown caulk** – southeast basement at wire penetrations into wall (Approximately 10 LF)
- **Cement asbestos board relite panels** – north, south, and east elevation window inserts (Approximately 320 SF)
- **Grey caulk** – North elevation east area between window frame and concrete slab (Approximately 110 LF)
- **Hard mudded fittings** of various sizes– both exposed and concealed in wall and ceiling cavities throughout (Approximately 300 LF)
- **Black sealant** – Level 2 roof associated with fibrous skylight panels (Approximately 475 LF)

The following materials sampled and found **not** to contain detectable concentrations of asbestos as part of this investigation:

- Joint compound and gypsum wallboard assemblies – throughout west basement, Level 1 and Level 2
- Skim coat and plaster walls – stairs to east basement and Level 1 men and women restrooms
- Wall texture – throughout west basement, Level 1 and Level 2
- Popcorn ceiling texture – throughout level 1 and level 2
- Texture on structural poles – throughout west basement, Level 1 and Level 2
- Fireproofing– throughout west basement, Level 1 and Level 2
- 12" grey vinyl floor tile associated with ACM black mastic – west basement storage rooms and custodian room
- 12" beige vinyl floor tile associated with ACM black mastic – Room 210
- Grey pebble sheet vinyl flooring on non-ACM beige vinyl floor tile associated with ACM black mastic – Lounge 202 kitchen
- 12" beige vinyl floor tile and associated yellow mastic – Level 1 north west interior book drop
- 12" off-white with black marks and associated brown mastic – Room 121
- 12" off-white with color streaks and associated brown mastic – Room 121
- Yellow, green, and blue carpet mastic – throughout
- White, grey, and brown leveling compound – various areas throughout
- 4" black vinyl cove base and associated tan- throughout
- Cream or brown mastic associated with 4" grey vinyl cove base – throughout
- Grey pebble sheet vinyl flooring and associated mastic – west basement restrooms and custodiam room
- Blue/tan sheet vinyl flooring and associated mastic – Room 101, 105, 106
- White/grey sheet vinyl flooring and associated mastic – Room 122
- Pink sheet vinyl flooring and associated mastic – Room 112
- Beige sheet vinyl flooring and associated mastic – Room 113
- Grey grout and cream mastic associated with 4" ceramic wall tile – Room 105 and 106
- Beige ceramic floor tile, grey grout, and mortar bed – Room 211, 212, and 218
- Tectum panels – Level 1 and Level 2 above suspended ceiling
- Grey and white sink undercoats – Room 108 and 202
- 2' x 4' lay-in-ceiling-tile square pattern – throughout

- 2' x 4' lay-in-ceiling-tile fissure pin hole pattern – throughout
- Grey caulk – southeast basement on HVAC equipment
- Grey doorframe caulk – west basement
- White caulk – sink counters in restrooms
- Expansion joint – west basement at cracks in concrete
- Gasket – west basement sprinkler system
- Hard red firestop – southeast basement at wire penetrations
- Red firestop west basement elevator mechanical room
- Cement masonry unit and associated mortar – southeast and west basements
- Brick and mortar – building exterior
- Grout and brown ceramic tile – north elevation columns
- Brown and black doorframe caulk – exterior doorframes
- Tan mastic – west elevation center doorframe cover plate
- Window caulk – exterior windows
- White texture and grey plaster soffit – Level 1 and 2 exteriors
- Marble Crete – level 2 elevations
- White sealant on black sealant – roof vents
- Grey sealant on black sealant – Roof level triangle shape window frames
- Black sealant – roof flashing
- Grey window putty – roof triangle windows
- Grey window caulk – roof triangle window frames
- Fibrous skylight panels – Level 2 roof
- Black asphaltic material – Level 1 roof drains
- Asphaltic built-up roofing – Level 1 central roof on flat roof and parapet
- Composition roof shingles and black vapor barrier – Level 1 and 2 roofing

Refer to Appendix A for specific samples locations and associated laboratory analysis.

## 2.2 Lead-Containing Components

Seven (7) representative painted coatings were sampled for lead content. The samples were assigned unique identification numbers and transmitted to NVL Laboratories, Inc. (AIHA IH #101861) in Seattle, Washington under chain-of-custody protocols for analysis using Flame Atomic Absorption.

Lead **was detected** in the following painted coatings.

- White paint on ACM cement board relite panels – exterior elevations (0.057% lead)

The following painted coatings were sampled and determined **not** to contain detectable lead.

- Brown paint on metal doorframes – west basement
- Beige paint on wood framed column – throughout Level 1
- Orange paint on gypsum wallboard wall – throughout Level 1
- Brown paint on metal door – Level 1 doors
- Off-white paint on gypsum wallboard walls – throughout Level 2
- Brown paint on metal handrail – curved stair between Level 1 and 2

- Brown metal flashing – roof levels

Refer to Appendix B for specific sample locations and associated laboratory analysis.

#### Lead Vent Pipes

PBS observed approximately eight (8) lead-containing plumbing vent flashing caps that require recycling when the roof is demolished. PBS recommends these items be segregated from other wastes and be recycled at an appropriate facility.

#### Sheet Lead Roof Flashing

PBS observed approximately 3 SF of sheet lead roof flashing on the level 1 roof at the base of the east triangle window frame.

### **2.3 Mercury-Containing Components**

All fluorescent light tubes are presumed to contain mercury. PBS counted the number of fluorescent tubes for the purposes of mercury vapor recovery prior to demolition activities. Approximately 1,350 four-foot, 6 two-foot light tubes, 24 U-shape tubes, and 150 compact fluorescent bulbs are present in the building areas to be impacted by the project. Caution should be exercised during demolition to not break these bulbs. Fluorescent light tubes were observed in the main space and above the suspended ceiling.

### **2.4 PCB-Containing Components**

Magnetic fluorescent light fixture ballasts are known to contain PCBs. Electronic ballasts do not contain PCBs. PBS used a Philips Advance ballast checker to test representative fluorescent light fixture ballasts throughout the building. All ballasts tested were found to be electronic.

Representative caulking and sealants are also suspect PCB-containing materials and were tested for the presence of PCBs. The samples were assigned unique identification numbers and transmitted to NVL Laboratories, Inc. (AIHA IH # 102063-0) in Seattle, Washington under chain-of-custody protocols for analysis. The samples were analyzed by EPA Method 8082.

The following materials were samples and determined **not** to contain greater than 50 ppm PCBs:

- Cream caulk on Air Handling Unit 2 at seams – west basement
- Cream caulk on HVAC at seams – southeast basement
- Black window caulk – exterior windows
- Black doorframe caulk – exterior doors

Refer to Appendix C for locations and laboratory results of PCB samples.

### **3 RECOMMENDATIONS**

#### **3.1 Asbestos-Containing Materials (ACMs)**

PBS recommends that all exposed and concealed ACMs be removed prior to renovation or demolition activities. A qualified Washington State licensed asbestos abatement contractor should be employed to remove all such ACMs according to applicable local, state, and federal regulations.

The possibility exist that suspect ACMs may be present in concealed locations including equipment, wall and ceiling cavities. These may include, but are not limited to waterproofing membrane, vermiculite, internal gaskets, caulking and sealants of HVAC equipment and construction adhesives, wall mastics and buried asbestos cement pipe. In the event that suspect ACMs that are not included in this survey are discovered during construction, contractors should avoid disturbance of the suspect ACM and inform the owner promptly for confirmation testing. All untested materials should be presumed asbestos-containing or tested for asbestos content prior to impact.

While not observed, additional suspect-ACMs may be present in concealed spaces, which are discussed above. Caution should be exercised during demolition to prevent impact of suspect-ACMs. All suspect ACMs should be presumed asbestos-containing until properly sampled and analyzed.

#### **3.2 Lead-Containing Components**

Representative interior and exterior painted coatings were found to contain lead. Impact of painted surfaces with detectable concentrations of lead requires construction activities to be performed according to Washington Administrative Code (WAC) 296-155-176,

Painted coatings may exist in inaccessible areas of the work area or in secondary coatings. Any previously unidentified painted coatings not sampled should be considered lead containing until sampled and proven otherwise.

Lead sheeting on lead lined roof vents and as roof flashing should be removed and handled by trained personnel in accordance with applicable regulations. The lead sheeting/linings should be recycled in a facility designed to handle such materials.

#### **3.3 Mercury-Containing Components**

Fluorescent lamps are known to contain mercury vapor. PBS recommends that all fluorescent lamps and mercury switches associated with thermostats be carefully handled and recycled/disposed of in accordance with the contract documents and applicable regulations during construction activities. Breakage of lamps should be avoided to prevent potential exposures to mercury. L&I requires specific training, handling, engineering controls, and disposal practices when performing this work. All waste shall be handled in accordance with WAC 173-303, Washington State Department of Ecology Dangerous Waste Regulations.

#### **3.4 PCB-Containing Components**

PBS recommends all light ballasts be inspected prior to disposal. Magnetic ballasts should be presumed to contain PCBs and properly removed, stored, transported and disposed of in accordance with WAC 173-303 and 40 CFR Part 761 Subpart D. Electronic ballasts do not contain PCBs and can be disposed of as general debris in compliance with applicable codes and endpoint facility requirements.

Please do not hesitate to contact us if you have any questions regarding this report or require additional information.

Report prepared by:

Report reviewed by:

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Project Manager  
AHERA Building Inspector  
Cert. # IR-21-7316B Exp. 12/10/2022

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## **APPENDIX A**

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### **PLM Bulk Sampling Information**

PLM Bulk Sample Inventory

PLM Bulk Sample Laboratory Data Sheets

PLM Bulk Sample Chain of Custody Documentation

**PLM ASBESTOS SAMPLE INVENTORY**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
41854.000 -01	Joint compound Gypsum wallboard	Hall near Meeting 108 south wall	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
41854.000 -02	Skim coat Plaster	Room 106 northwest restroom	Layer 1: White brittle material Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -03	Skim coat Plaster	Stairs to east basement	Layer 1: White brittle material Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -04	Wall texture	Level 1 central column	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -05	Wall texture	Office 215 south wall	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -06	Wall texture	Level 1 southeast large column	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -07	Wall texture	Level 2 gallery south wall	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -08	Wall texture	Meeting 108 east wall	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -09	Wall texture	Outside 209 east wall	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -10	Wall texture	Work room 109 west wall	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -11	Popcorn ceiling	LV1 west central area	Layer 1: White soft lumpy material	NAD	SAT
41854.000 -12	Popcorn ceiling	LV2 southeast of "open"	Layer 1: White soft lumpy material	NAD	SAT
41854.000 -13	Popcorn ceiling	LV1 east upper skylight area	Layer 1: White soft lumpy material with paint	NAD	SAT
41854.000 -14	Popcorn ceiling	Study 208	Layer 1: White soft lumpy material with paint	NAD	SAT

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<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
41854.000 -15	Popcorn ceiling	Meeting 108 southeast area	Layer 1: White soft lumpy material with paint	NAD	SAT
41854.000 -16	Popcorn ceiling	Gallery 206 north area	Layer 1: White soft lumpy material with paint	NAD	SAT
41854.000 -17	Popcorn ceiling	LV1 southeast area	Layer 1: White soft lumpy material with paint	NAD	SAT
41854.000 -18	Texture on pole	West basement east open area	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -19	Texture on pole	LV1 southeast area	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -20	Texture on pole	LV2 southeast of "open"	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -21	Texture on pole	West basement west storage	Layer 1: White powdery material with paint Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -22	Texture on pole	LV1 near main northwest entrance	Layer 1: White powdery material with paint	NAD	SAT
41854.000 -23	Fire proofing	West basement south area	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
41854.000 -24	Fire proofing	LV1 west central area	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
41854.000 -25	Fire proofing	Gallery 206	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
41854.000 -26	Fire proofing	West basement southwest mechanical room	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
41854.000 -27	Fire proofing	LV1 east area	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
41854.000 -28	Fire proofing	Lounge 202	Layer 1: Off-white powdery material with	NAD	SAT

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<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
			fibrous material		
41854.000 -29	Fire proofing	Meeting 108 northwest area	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
41854.000 -30	12" gray vinyl floor tile black mastic	West basement west storage room	Layer 1: Gray tile Layer 2: Black mastic	NAD <b>3% Chrysotile</b>	SAT
41854.000 -31	12" gray vinyl floor tile black mastic	West basement custodial room	Layer 1: Gray tile Layer 2: Black mastic	NAD <b>3% Chrysotile</b>	SAT
41854.000 -32	12" beige vinyl floor tile yellow mastic	LV1 northwest area near interior book drop	Layer 1: Beige tile Layer 2: Yellow mastic	NAD NAD	SAT
41854.000 -33	12" off-white with black marks Brown mastic	Storage 121	Layer 1: Off-white tile Layer 2: Black/brown mastic	NAD NAD	SAT
41854.000 -34	12" off-white with color streaks Brown mastic	Storage 121	Layer 1: Off-white tile Layer 2: Black/brown mastic	NAD NAD	SAT
41854.000 -35	Yellow carpet mastic White leveling compound	LV1 northeast area	Layer 1: Yellow mastic Layer 2: White brittle material	NAD NAD	SAT
41854.000 -36	Green carpet mastic Grey leveling compound White leveling compound	LV1 south central area at concrete seam	Layer 1: Green mastic Layer 2: Gray sandy/brittle material Layer 3: White brittle material	NAD NAD NAD	SAT
41854.000 -37	Green carpet mastic Grey leveling compound Brown leveling compound	LV1 south central area	Layer 1: Green mastic Layer 2: Gray sandy/brittle material Layer 3: Brown brittle material	NAD NAD NAD	SAT
41854.000 -38	4" black vinyl cove base Tan mastic	West basement custodian room	Layer 1: Black rubbery material Layer 2: Tan mastic	NAD NAD	SAT

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<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
41854.000 -39	Grey pebble sheet vinyl flooring Grey backing and mastic	West basement custodian room	Layer 1: Gray sheet vinyl Layer 2: Gray fibrous material with mastic	NAD NAD	SAT
41854.000 -40	Grey pebble sheet vinyl flooring Grey backing and mastic	West basement women's restroom	Layer 1: Gray sheet vinyl Layer 2: Gray fibrous material with mastic	NAD NAD	SAT
41854.000 -41	Blue/tan sheet vinyl flooring  Woven backing	Men 106	Layer 1: Blue/tan sheet vinyl Layer 2: Clear mastic Layer 3: Tan woven fibrous material	NAD NAD NAD	SAT
41854.000 -42	Blue/tan sheet vinyl flooring  Woven backing	Toilet 101	Layer 1: Blue/tan sheet vinyl Layer 2: Clear mastic Layer 3: Tan woven fibrous material	NAD NAD NAD	SAT
41854.000 -43	White/grey pebble sheet vinyl flooring Grey backing	Toilet 122	Layer 1: White/gray sheet vinyl Layer 2: Gray fibrous material with mastic	NAD NAD	SAT
41854.000 -44	Pink sheet vinyl flooring Tan backing Cream mastic White leveling compound	Staff toilet 112	Layer 1: Pink sheet vinyl Layer 2: Tan fibrous material with cream mastic Layer 3: White brittle material	NAD NAD NAD	SAT
41854.000 -45	Beige pebble sheet vinyl flooring backing and mastic White leveling compound	Supplies 113	Layer 1: Beige sheet vinyl Layer 2: Gray fibrous material with mastic Layer 3: White brittle material	NAD NAD NAD	SAT
41854.000 -46	Grey grout Cream mastic	Men 106 associated with 4" ceramic wall tile	Layer 1: Gray brittle material Layer 2: Cream mastic	NAD NAD	SAT
41854.000 -47	Hard mudded fitting	Southeast basement	Layer 1: Gray powdery material with fibrous material and woven fibrous material	<b>4% Amosite</b>	SAT
41854.000 -48	Hard mudded fitting	Southeast basement	Sample not analyzed		SAT
41854.000 -49	Hard mudded fitting	Southeast basement	Sample not analyzed		SAT

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<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
41854.000 -50	Tectum panel	Meeting 108 above drop ceiling	Layer 1: White brittle material with paint Layer 2: Brown wood block	NAD NAD	SAT
41854.000 -51	Tectum panel	Lounge 202 above drop ceiling	Layer 1: White brittle material with paint Layer 2: Brown wood block	NAD NAD	SAT
41854.000 -52	Grey sink undercoating	Meeting 108	Layer 1: Gray soft/loose material	NAD	SAT
41854.000 -53	White sink undercoating	Lounge 202	Layer 1: White soft/loose material	NAD	SAT
41854.000 -54	Black speaker box mastic	West basement northwest speaker box	Layer 1: Black mastic	<b>3% Chrysotile</b>	SAT
41854.000 -55	Black speaker box mastic	Toilet 218	Layer 1: Black mastic	<b>3% Chrysotile</b>	SAT
41854.000 -56	2' x 4' lay-in-ceiling-tile square pattern	LV1 west central area	Layer 1: Gray fibrous material with paint	NAD	SAT
41854.000 -57	2' x 4' lay-in-ceiling-tile fissure pinhole pattern	West basement custodian room	Layer 1: Gray fibrous material with paint	NAD	SAT
41854.000 -58	Grey caulk	Southeast basement on HVAC	Layer 1: Gray soft/elastic material	NAD	SAT
41854.000 -59	Brown caulk	Southeast basement at wire penetration to wall	Layer 1: Brown soft material	<b>3% Chrysotile</b>	SAT
41854.000 -60	Grey doorframe caulk	West basement	Layer 1: Gray soft/elastic material	NAD	SAT
41854.000 -61	White caulk	Men 106	Layer 1: White soft/elastic material	NAD	SAT
41854.000 -62	Expansion joint	West basement open area at crack in concrete	Layer 1: Gray brittle material	NAD	SAT
41854.000 -63	Expansion joint	West basement open area at	Layer 1: Gray brittle material	NAD	SAT

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<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
		crack in concrete			
41854.000 -64	Gasket	West basement northwest sprinkler system	Layer 1: Gray soft/elastic material with paint	NAD	SAT
41854.000 -65	Red fire stop	West basement elevator mechanical room	Layer 1: Red soft/elastic material Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -66	Hard red fire stop	Southeast basement at wire penetration to wall	Layer 1: Red hard brittle material	NAD	SAT
41854.000 -67	Cement masonry unit associated mortar	Southeast basement	Layer 1: Gray brittle/sandy material Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -68	Cement masonry unit associated mortar	West basement custodian room	Layer 1: Gray brittle/sandy material Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -69	Brick mortar	LV1 southwest elevation	Layer 1: Beige sandy/brittle material Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -70	Brown ceramic tile Grout	North elevation	Layer 1: Brown ceramic Layer 2: White brittle/sandy material	NAD NAD	SAT
41854.000 -71	Brown doorframe caulk	West elevation south door	Layer 1: Brown soft material	NAD	SAT
41854.000 -72	Black doorframe caulk	West elevation north door	Layer 1: Brown soft material	NAD	SAT
41854.000 -73	Tan mastic	West elevation central door behind frame cover	Layer 1: Tan mastic	NAD	SAT
41854.000 -74	Window caulk	West elevation south area frame to sill	Layer 1: Black soft/elastic material	NAD	SAT
41854.000 -75	White texture	West elevation soffit	Layer 1: White powdery material with sand	NAD	SAT

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<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
	grey plaster		Layer 2: Gray sandy/brittle material	NAD	
41854.000 -76	White texture grey plaster	Northeast elevation soffit	Layer 1: White powdery material with sand Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -77	White texture grey plaster	Southeast elevation soffit	Layer 1: White powdery material with sand Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -78	Composition shingles Composition shingles Composition shingles Black vapor barrier	Level 1 roof west elevation	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic material with sand Layer 3: Black asphaltic material with sand Layer 4: Black asphaltic material with fibrous material	NAD NAD NAD NAD	SAT
41854.000 -79	Joint compound  Gypsum wallboard	West basement northeast restroom	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
41854.000 -80	Wallpaper Joint compound  Gypsum wallboard	Office 215 northwest corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
41854.000 -81	Skim coat Plaster	Women 105	Layer 1: White powdery material with paint Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -82	Yellow and blue carpet mastic	Gallery 206	Layer 1: Yellow/blue mastic	NAD	SAT
41854.000 -83	12" beige vinyl floor tile Black mastic	Storage 210	Layer 1: Beige tile Layer 2: Black mastic	NAD <b>3% Chrysotile</b>	SAT
41854.000 -84	Gray pebble sheet vinyl flooring Backing and mastic 12" beige vinyl floor tile Black mastic		Layer 1: Gray sheet vinyl Layer 2: Gray fibrous material with mastic Layer 3: Beige tile Layer 4: Black mastic	NAD NAD NAD <b>3% Chrysotile</b>	SAT

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<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
41854.000 -85	Beige ceramic floor tile Gray grout Gray mortar bed	Men 212	Layer 1: Beige ceramic Layer 2: Gray brittle/sandy material Layer 3: Gray mastic	NAD NAD NAD	SAT
41854.000 -86	Cream mastic, Brown mastic	Office 215 associated with 4" gray vinyl cove base	Layer 1: Cream/brown mastic	NAD	SAT
41854.000 -87	Cream mastic	LV1 work room north area associated with fiberglass reinforced plastic panel	Layer 1: Cream mastic	NAD	SAT
41854.000 -88	Hard mudded fitting ~6"	West basement above ceiling in custodial room	Layer 1: White powdery material with woven fibrous material and fibrous material	NAD	SAT
41854.000 -89	Hard mudded fitting ~4"	West basement above ceiling in custodial room	Layer 1: White powdery material with woven fibrous material and fibrous material	NAD	SAT
41854.000 -90	Cement board relite panel	North elevation east area below windows	Layer 1: Gray cementitious material with paint	<b>15% Chrysotile</b>	SAT
41854.000 -91	Cement board relite panel	South elevation east area	Layer 1: Gray cementitious material with paint	<b>15% Chrysotile</b>	SAT
41854.000 -92	White texture Gray plaster	Level 2 south elevation soffit	Layer 1: White sandy/brittle material with paint Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -93	White texture Gray plaster	Level 2 east elevation soffit	Layer 1: White sandy/brittle material with paint Layer 2: Gray sandy/brittle material	NAD NAD	SAT
41854.000 -94	Marble Crete	Level 2 southwest elevation corner	Layer 1: Gray hard sandy/brittle material	NAD	SAT
41854.000 -95	Marble Crete	Level 2 northeast elevation corner	Layer 1: Gray hard sandy/brittle material	NAD	SAT

**Lakewood Library  
Pierce County Library System**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
41854.000 -96	Marble Crete	Level 2 southeast elevation corner	Layer 1: Gray hard sandy/brittle material	NAD	SAT
41854.000 -97	Brick Mortar	LV2 northeast elevation	Layer 1: Gray sandy/brittle material Layer 2: Beige sandy/brittle material	NAD NAD	SAT
41854.000 -98	Gray caulk	North elevation east area between window frame and concrete slab	Layer 1: Gray soft material	<b>3% Chrysotile</b>	SAT
41854.000 -99	Gray sealant Black sealant	Level 2 roof north triangle window frame	Layer 1: Gray soft/elastic material Layer 2: Black soft/elastic material	NAD NAD	SAT
41854.000 -100	White sealant Black sealant	Level 2 north roof vent	Layer 1: White soft/elastic material Layer 2: Black soft/elastic material	NAD NAD	SAT
41854.000 -101	Black sealant	Level 2 roof associated with fibrous skylight	Layer 1: Black asphaltic material	<b>3% Chrysotile</b>	SAT
41854.000 -102	Black flashing sealant	Level 1 roof at east triangle window	Layer 1: Black soft/elastic material	NAD	SAT
41854.000 -103	Gray window putty	Level 1 roof at east triangle window	Layer 1: Gray soft material	NAD	SAT
41854.000 -104	Gray window caulk	Level 1 roof at east triangle window	Layer 1: Gray brittle material	NAD	SAT
41854.000 -105	Fibrous panel	Level 2 roof skylight east side	Layer 1: White fibrous material	NAD	SAT
41854.000 -106	Black asphaltic material	Roof northeast roof drain	Layer 1: Black asphaltic material	NAD	
41854.000 -107	Composition shingles Composition shingles	Level 2 roof east elevation	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic material with sand	NAD NAD	SAT

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
	Composition shingles Asphaltic layer Wood		Layer 3: Black asphaltic material with sand Layer 4: Black asphaltic material Layer 5: Brown wood block	NAD NAD NAD	
41854.000 -108	Black vapor barrier	Level 1 east area below plastic skylight panel	Layer 1: Black asphaltic fibrous material	NAD	SAT
41854.000 -109	Asphaltic built-up roofing	Level 1 central flat roof	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic material Layer 3: Black asphaltic material with fibrous material Layer 4: Black asphaltic material Layer 5: Black asphaltic material with fibrous material	NAD NAD NAD NAD NAD	SAT
41854.000 -110	Asphaltic roofing on parapet	Level 1 center roof	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic material Layer 3: Black asphaltic material with fibrous material Layer 4: Black asphaltic material	NAD NAD NAD NAD	SAT

## SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

[www.seattleasbestostest.com](http://www.seattleasbestostest.com), [admin@seattleasbestostest.com](mailto:admin@seattleasbestostest.com)

Project Manager: Mark Hiley	Date Analyzed: 9/30/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 41854.000
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Lakewood Library
Tel: 206.233.9639	Laboratory batch#: 202211157
Date Report Issued: 9/30/2022	Samples Received: 76

Enclosed please find the test results for the bulk samples submitted to our laboratory for asbestos analysis. Analysis was performed using polarized light microscopy (PLM) in accordance with Test Method US EPA - 40 CFR Appendix E of Part 763, Interim Method of Determination of Asbestos in Bulk Insulation Samples and Test Method US EPA/600/R-93/116.

Percentages for this report are done by visual estimate and relate to the suggested acceptable error ranges by the method. Since variation in data increases as the quantity of asbestos decreases toward the limit of detection, the EPA recommends point counting for samples containing between <1% and 10% asbestos (NESHAP, 40 CFR Part 61). Statistically, point counting is a more accurate method. If you feel a point count might be beneficial, please feel free to call and request one.

The test results refer only to the samples or items submitted and tested. The accuracy with which these samples represent the actual materials is totally dependent on the acuity of the person who took the samples. This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government. The test report or calibration certificate shall not be reproduced except in full, without written approval of the laboratory. If the sample is inhomogeneous the sub-samples of the components are analyzed separately as layers. This report in its entirety consists of this cover letter, the customer sampling COC or data sheet, and the analytical report which is page numbered.

This report is highly confidential and will not be released without your consent. Samples are archived for 30 days after the analysis, and disposed of as hazardous waste thereafter.

Thank you for using our service and let us know if we can further assist you.

Sincerely



Steve (Fanyao) Zhang  
Approved Signatory



Project: Lakewood library

Project #: 41854.000 Page 1 of 3

Analysis requested: PLM

Date: 9/29/2022

Relinq'd by/Signature: *Cameron Budnick*

Date/Time: 9/29/2022

Received by/Signature: *[Signature]*

Date/Time: 9/29/22 15:50

Email ALL INVOICES to: [seattleap@pbsusa.com](mailto:seattleap@pbsusa.com)

**E-mail results to:**

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Willem Mager          | <input type="checkbox"/> Allison Welch          | <input type="checkbox"/> Cameron Budnick             |
| <input type="checkbox"/> Gregg Middaugh        | <input type="checkbox"/> Toan Nguyen            | <input type="checkbox"/> Mae Reilly                  |
| <input checked="" type="checkbox"/> Mark Hiley | <input type="checkbox"/> Peter Stensland        | <input type="checkbox"/> Nick San                    |
| <input type="checkbox"/> Tim Ogden             | <input checked="" type="checkbox"/> Claire Tsai | <input checked="" type="checkbox"/> Kameron DeMonnin |
| <input type="checkbox"/> Ryan Hunter           | <input type="checkbox"/> Holly Tuttle           | <input type="checkbox"/> _____                       |
| <input type="checkbox"/> Prudy Stoudt-McRae    | <input type="checkbox"/> Mike Smith             |  |
| <input type="checkbox"/> Janet Murphy          | <input type="checkbox"/> Ferman Fletcher        |  |

**TURN AROUND TIME:**

- |                                  |  |                                      |
|----------------------------------|--|--------------------------------------|
| <input type="checkbox"/> 1 Hour  | <input checked="" type="checkbox"/> 24 Hours | <input type="checkbox"/> 3-5 Days    |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 48 Hours            | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> 4 Hours |  |                                      |

Composite if positive \*\*\*  
Stop at first positive for each set: (1) (2) (3) (4) (5) (6)

**SAMPLE DATA FORM**

Sample #	Material	Location	Lab
41854.000-01	Joint compound/ Gypsum wallboard***	Hall near Meeting 108 south wall	SAT
41854.000-02	Skim coat on plaster	Room 106 northwest restroom	
41854.000-03	Skim coat on plaster	Stairs to east basement	
41854.000-04	Wall texture (1)	Level 1 central column	
41854.000-05	Wall texture (1)	Office 215 south wall	
41854.000-06	Wall texture (1)	Level 1 southeast large column	
41854.000-07	Wall texture (1)	Level 2 gallery south wall	
41854.000-08	Wall texture (1)	Meeting 108 east wall	
41854.000-09	Wall texture (1)	Outside 209 east wall	
41854.000-10	Wall texture (1)	Work room 109 west wall	
41854.000-11	Popcorn ceiling (2)	LV1 west central area	
41854.000-12	Popcorn ceiling (2)	LV2 southeast of "open"	
41854.000-13	Popcorn ceiling (2)	LV1 east upper skylight area	
41854.000-14	Popcorn ceiling (2)	Study 208	
41854.000-15	Popcorn ceiling (2)	Meeting 108 southeast area	
41854.000-16	Popcorn ceiling (2)	Gallery 206 north area	
41854.000-17	Popcorn ceiling (2)	LV1 southeast area	



# LABORATORY CHAIN OF CUSTODY

202211157

Project: Lakewood library

Project #: 41854.000

Page 2 of 3

## SAMPLE DATA FORM

Sample #	Material	Location	Lab
41854.000-18	Texture on pole (3)	West basement east open area	
41854.000-19	Texture on pole (3)	LV1 southeast area	
41854.000-20	Texture on pole (3)	LV2 southeast of "open"	
41854.000-21	Texture on pole (3)	West basement west storage	
41854.000-22	Texture on pole (3)	LV1 near main northwest entrance	
41854.000-23	Fire proofing (4)	West basement south area	
41854.000-24	Fire proofing (4)	LV1 west central area	
41854.000-25	Fire proofing (4)	Gallery 206	
41854.000-26	Fire proofing (4)	West basement southwest mechanical room	
41854.000-27	Fire proofing (4)	LV1 east area	
41854.000-28	Fire proofing (4)	Lounge 202	
41854.000-29	Fire proofing (4)	Meeting 108 northwest area	
41854.000-30	12" gray vinyl floor tile Black mastic	West basement west storage room	
41854.000-31	12" gray vinyl floor tile Black mastic	West basement custodial room	
41854.000-32	12" beige vinyl floor tile Yellow mastic	LV1 northwest area near interior book drop	
41854.000-33	12" off-white with black marks Brown mastic	Storage 121	
41854.000-34	12" off-white with color streaks Brown mastic	Storage 121	
41854.000-35	Yellow carpet mastic White leveling compound	LV1 northeast area	
41854.000-36	Green carpet mastic Grey leveling compound White leveling compound	LV1 south central area at concrete seam	
41854.000-37	Green carpet mastic Grey leveling compound Brown leveling compound	LV1 south central area	
41854.000-38	4" black vinyl cove base tan mastic	West basement custodian room	
41854.000-39	Grey pebble sheet vinyl flooring Grey backing and mastic	West basement custodian room	
41854.000-40	Grey pebble sheet vinyl flooring Grey backing and mastic	West basement women's restroom	
41854.000-41	Blue/tan sheet vinyl flooring Woven backing	Men 106	
41854.000-42	Blue/tan sheet vinyl flooring Woven backing	Toilet 101	
41854.000-43	White/grey pebble sheet vinyl flooring Grey backing	Toilet 122	
41854.000-44	Pink sheet vinyl flooring Tan backing Cream mastic White leveling compound	Staff toilet 112	
41854.000-45	Beige pebble sheet vinyl flooring White leveling compound	Supplies 113	
41854.000-46	Grey grout Cream mastic	Men 106 associated with 4" ceramic wall tile	
41854.000-47	Hard mudded fitting (5)	Southeast basement	

202211157



# LABORATORY CHAIN OF CUSTODY

Project: Lakewood libraryProject #: 41854.000 Page 3 of 3

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
41854.000-48	Hard mudded fitting (5)	Southeast basement	
41854.000-49	Hard mudded fitting (5)	Southeast basement	
41854.000-50	Tectum panel	Meeting 108 above drop ceiling	
41854.000-51	Tectum panel	Lounge 202 above drop ceiling	
41854.000-52	Grey sink undercoating	Meeting 108	
41854.000-53	White sink undercoating	Lounge 202	
41854.000-54	Black speaker box mastic	West basement northwest speaker box	
41854.000-55	Black speaker box mastic	Toilet 218	
41854.000-56	2' x 4' lay-in-ceiling-tile square pattern	LV1 west central area	
41854.000-57	2' x 4' lay-in-ceiling-tile fissure pinhole pattern	West basement custodian room	
41854.000-58	Grey caulk	Southeast basement on HVAC	
41854.000-59	Brown caulk	Southeast basement at wire penetration to wall	
41854.000-60	Grey doorframe caulk	West basement	
41854.000-61	White caulk	Men 106	
41854.000-62	Expansion joint	West basement open area at crack in concrete	
41854.000-63	Expansion joint	West basement open area at crack in concrete	
41854.000-64	Gasket	West basement northwest sprinkler system	
41854.000-65	Red fire stop	West basement elevator mechanical room	
41854.000-66	Hard red fire stop	Southeast basement at wire penetration to wall	
41854.000-67	Cement masonry unit and associated mortar	Southeast basement	
41854.000-68	Cement masonry unit and associated mortar	West basement custodian room	
41854.000-69	Brick and mortar	LV1 southwest elevation	
41854.000-70	Grout and brown ceramic tile	North elevation	
41854.000-71	Brown doorframe caulk	West elevation south door	
41854.000-72	Black doorframe caulk	West elevation north door	
41854.000-73	Tan mastic	West elevation central door behind frame cover	
41854.000-74	Window caulk	West elevation south area frame to sill	
41854.000-75	White texture on grey plaster (6)	West elevation soffit	
41854.000-76	White texture on grey plaster (6)	Northeast elevation soffit	
41854.000-77	White texture on grey plaster (6)	Southeast elevation soffit	
41854.000-78	3 layers composition shingles Black vapor barrier	Level 1 roof west elevation	

# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

Disclaimer: This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government.

## ANALYTICAL LABORATORY REPORT

[PLM] EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples;  
EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Attn.: Mark Hiley

Client: PBS Engineering and Environmental, Seattle

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 41854.000

Batch#: 202211157

Date Received: 9/29/2022

Samples Rec'd: 76

Date Analyzed: 9/30/2022

Samples Analyzed: 76

Project Loc.: Lakewood Library

Analyzed by:  Xu

Approved Signatory: Steve (Fanyao) Zhang, President

*S Zhang*

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	41854.000-01	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose, Glass fibers
2	41854.000-02	1	White brittle material		None detected	Filler, Binder	2	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
3	41854.000-03	1	White brittle material		None detected	Filler, Binder	3	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	4	Cellulose
4	41854.000-04	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
5	41854.000-05	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
6	41854.000-06	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
7	41854.000-07	1	White powdery material with paint		None detected	Binder/filler, Paint	6	Cellulose
8	41854.000-08	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
9	41854.000-09	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
10	41854.000-10	1	White powdery material with paint		None detected	Binder/filler, Paint	6	Cellulose
11	41854.000-11	1	White soft lumpy material		None detected	Synthetic foam, Filler, Binder	2	Cellulose
12	41854.000-12	1	White soft lumpy material		None detected	Synthetic foam, Filler, Binder	2	Cellulose
13	41854.000-13	1	White soft lumpy material with paint		None detected	Synthetic foam, Filler, Binder, Paint	3	Cellulose
14	41854.000-14	1	White soft lumpy material with paint		None detected	Synthetic foam, Filler, Binder, Paint	4	Cellulose
15	41854.000-15	1	White soft lumpy material with paint		None detected	Synthetic foam, Filler, Binder, Paint	3	Cellulose
16	41854.000-16	1	White soft lumpy material with paint		None detected	Synthetic foam, Filler, Binder, Paint	2	Cellulose
17	41854.000-17	1	White soft lumpy material with paint		None detected	Synthetic foam, Filler, Binder, Paint	4	Cellulose
18	41854.000-18	1	White powdery material with paint		None detected	Binder/filler, Paint, Vermiculite	6	Cellulose
19	41854.000-19	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
20	41854.000-20	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose

# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

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## ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples;  
EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Attn: Mark Hiley

Client: PBS Engineering and Environmental, Seattle

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 41854.000

Batch#: 202211157

Date Received: 9/29/2022

Samples Rec'd: 76

Date Analyzed: 9/30/2022

Samples Analyzed: 76

Project Loc.: Lakewood Library

Analyzed by: 

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
21	41854.000-21	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
22	41854.000-22	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
23	41854.000-23	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles, Vermiculite	17	Cellulose
24	41854.000-24	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles, Vermiculite	15	Cellulose
25	41854.000-25	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles, Vermiculite	16	Cellulose
26	41854.000-26	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles, Vermiculite	14	Cellulose
27	41854.000-27	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles, Vermiculite	15	Cellulose
28	41854.000-28	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles, Vermiculite	16	Cellulose
29	41854.000-29	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles, Vermiculite	17	Cellulose
30	41854.000-30	1	Gray tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		2	Black mastic	3	Chrysotile	Mastic/binder	4	Cellulose
31	41854.000-31	1	Gray tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		2	Black mastic	3	Chrysotile	Mastic/binder	3	Cellulose
32	41854.000-32	1	Beige tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		2	Yellow mastic		None detected	Mastic/binder	4	Cellulose
33	41854.000-33	1	Off-white tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		2	Black/brown mastic		None detected	Mastic/binder	3	Cellulose
34	41854.000-34	1	Off-white tile		None detected	Vinyl/binder, Mineral grains	3	Cellulose
		2	Brown mastic		None detected	Mastic/binder	4	Cellulose
35	41854.000-35	1	Yellow mastic		None detected	Mastic/binder	5	Synthetic fibers, Cellulose

# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

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## ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples;  
EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Attn.: Mark Hiley

Client: PBS Engineering and Environmental, Seattle

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 41854.000

Batch#: 202211157

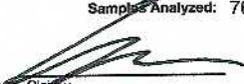
Date Received: 9/29/2022

Samples Rec'd: 76

Date Analyzed: 9/30/2022

Samples Analyzed: 76

Project Loc.: Lakewood Library

Analyzed by:  Steve (Fanyao) Zhang, President

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
35	41854.000-35	2	White brittle material		None detected	Filler, Binder	2	Cellulose
36	41854.000-36	1	Green mastic		None detected	Mastic/binder	5	Synthetic fibers, Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
		3	White brittle material		None detected	Filler, Binder	2	Cellulose
37	41854.000-37	1	Green mastic		None detected	Mastic/binder	4	Synthetic fibers, Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	4	Cellulose
		3	Brown brittle material		None detected	Filler, Binder	3	Cellulose
38	41854.000-38	1	Black rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Tan mastic		None detected	Mastic/binder	2	Cellulose
39	41854.000-39	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
40	41854.000-40	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
41	41854.000-41	1	Blue/tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Tan woven fibrous material		None detected	Filler, Binder	83	Synthetic fibers
42	41854.000-42	1	Blue/tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Tan woven fibrous material		None detected	Filler, Binder	84	Synthetic fibers
43	41854.000-43	1	White/gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
44	41854.000-44	1	Pink sheet vinyl		None detected	Vinyl/binder		None detected

# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200788-0

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## ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Attn.: Mark Hiley

Client: PBS Engineering and Environmental, Seattle

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 41854.000

Batch#: 202211157

Date Received: 9/29/2022

Samples Rec'd: 76

Date Analyzed: 9/30/2022

Samples Analyzed: 76

Project Loc.: Lakewood Library

Analyzed by:  Qiu Xu

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
44	41854.000-44	2	Tan fibrous material with cream mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		3	White brittle material		None detected	Filler, Binder	2	Cellulose
45	41854.000-45	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
		3	White brittle material		None detected	Filler, Binder	3	Cellulose
46	41854.000-46	1	Gray brittle material		None detected	Filler, Binder	3	Cellulose
		2	Cream mastic		None detected	Mastic/binder	4	Cellulose
47	41854.000-47	1	Gray powdery material with fibrous material and woven fibrous material	4	Amosite	Filler, Fine particles	17	Cellulose
48	41854.000-48		Sample not analyzed					
49	41854.000-49		Sample not analyzed					
50	41854.000-50	1	White brittle material with paint		None detected	Filler, Binder, Paint	2	Cellulose
		2	Brown wood block		None detected	Wood aggregates	4	Cellulose
51	41854.000-51	1	White brittle material with paint		None detected	Filler, Binder, Paint	3	Cellulose
		2	Brown wood block		None detected	Wood aggregates	5	Cellulose
52	41854.000-52	1	Gray soft/loose material		None detected	Filler, Fine particles	5	Cellulose
53	41854.000-53	1	White soft/loose material		None detected	Filler, Fine particles	5	Cellulose
54	41854.000-54	1	Black mastic	3	Chrysotile	Mastic/binder	4	Cellulose
55	41854.000-55	1	Black mastic	3	Chrysotile	Mastic/binder	3	Cellulose
56	41854.000-56	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	65	Cellulose
57	41854.000-57	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose
58	41854.000-58	1	Gray soft/elastic material		None detected	Binder, Filler	4	Cellulose
59	41854.000-59	1	Brown soft material	3	Chrysotile	Filler, Binder	3	Cellulose
60	41854.000-60	1	Gray soft/elastic material		None detected	Binder, Filler	5	Cellulose

# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

Disclaimer: This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government.

## ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Attn.: Mark Hiley

Client: PBS Engineering and Environmental, Seattle

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 41854.000

Batch#: 202211157

Date Received: 9/29/2022

Samples Rec'd: 76

Date Analyzed: 9/30/2022

Samples Analyzed: 76

Project Loc.: Lakewood Library

Analyzed by: Eric Xu

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
61	41854.000-61	1	White soft/elastic material		None detected	Binder, Filler	4	Cellulose
62	41854.000-62	1	Gray brittle material		None detected	Filler, Binder	2	Cellulose
63	41854.000-63	1	Gray brittle material		None detected	Filler, Binder	3	Cellulose
64	41854.000-64	1	Gray soft/elastic material with paint		None detected	Binder, Filler, Paint	4	Cellulose
65	41854.000-65	1	Red soft/elastic material		None detected	Binder, Filler	4	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
66	41854.000-66	1	Red hard brittle material		None detected	Filler, Binder	2	Cellulose
67	41854.000-67	1	Gray brittle/sandy material		None detected	Binder, Sand	2	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
68	41854.000-68	1	Gray brittle/sandy material		None detected	Binder, Sand	3	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	4	Cellulose
69	41854.000-69	1	Beige sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
70	41854.000-70	1	Brown ceramic		None detected	Ceramic/binder		None detected
		2	White brittle/sandy material		None detected	Binder, Sand	2	Cellulose
71	41854.000-71	1	Brown soft material		None detected	Filler, Binder	3	Cellulose
72	41854.000-72	1	Black soft material		None detected	Filler, Binder	4	Cellulose
73	41854.000-73	1	Tan mastic		None detected	Mastic/binder	3	Cellulose
74	41854.000-74	1	Black soft/elastic material		None detected	Binder, Filler	5	Cellulose
75	41854.000-75	1	White powdery material with sand		None detected	Filler, Binder, Sand	3	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
76	41854.000-76	1	White powdery material with sand		None detected	Filler, Binder, Sand	4	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
77	41854.000-77	1	White powdery material with sand		None detected	Filler, Binder, Sand	3	Cellulose



## SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager: Mark Hiley	Date Analyzed: 10/4/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 41854.000
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Lakewood Library
Tel: 206.233.9639	Laboratory batch#: 202211187
Date Report Issued: 10/4/2022	Samples Received: 32

Enclosed please find the test results for the bulk samples submitted to our laboratory for asbestos analysis. Analysis was performed using polarized light microscopy (PLM) in accordance with Test Method US EPA - 40 CFR Appendix E of Part 763, Interim Method of Determination of Asbestos in Bulk Insulation Samples and Test Method US EPA/600/R-93/116.

Percentages for this report are done by visual estimate and relate to the suggested acceptable error ranges by the method. Since variation in data increases as the quantity of asbestos decreases toward the limit of detection, the EPA recommends point counting for samples containing between <1% and 10% asbestos (NESHAP, 40 CFR Part 61). Statistically, point counting is a more accurate method. If you feel a point count might be beneficial, please feel free to call and request one.

The test results refer only to the samples or items submitted and tested. The accuracy with which these samples represent the actual materials is totally dependent on the acuity of the person who took the samples. This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government. The test report or calibration certificate shall not be reproduced except in full, without written approval of the laboratory. If the sample is inhomogeneous the sub-samples of the components are analyzed separately as layers. This report in its entirety consists of this cover letter, the customer sampling COC or data sheet, and the analytical report which is page numbered.

This report is highly confidential and will not be released without your consent. Samples are archived for 30 days after the analysis, and disposed of as hazardous waste thereafter.

Thank you for using our service and let us know if we can further assist you.

Sincerely



Steve (Fanyao) Zhang  
Approved Signatory

20221187



# LABORATORY CHAIN OF CUSTODY

Project: Lakewood library

Project #: 41854.000 Page 1 of 2

Analysis requested: PLM

Date: 10/3/2022

Relinquished by/Signature: *[Signature]*

Date/Time: 10/3/2022

Received by/Signature: *[Signature]*

Date/Time: 10/4/22 13:30

Email ALL INVOICES to: [seattleap@pbsusa.com](mailto:seattleap@pbsusa.com)

**E-mail results to:**

- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Ryan Hunter
- Prudy Stoudt-McRae
- Janet Murphy

- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai
- Holly Tuttle
- Mike Smith
- Ferman Fletcher

- Cameron Budnick
- Mae Reilly
- Nick San
- Kameron DeMonnin
- \_\_\_\_\_

**TURN AROUND TIME:**

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other \_\_\_\_\_

Composite if positive \*\*\*

## SAMPLE DATA FORM

Sample #	Material	Location	Lab
41854.000-79	Joint compound/ Gypsum wallboard***	West basement northeast restroom	SAT
41854.000-80	Wallpaper Joint compound/ Gypsum wallboard***	Office 215 northwest corner	
41854.000-81	Skim coat on plaster	Women 105	
41854.000-82	Yellow and blue carpet mastic	Gallery 206	
41854.000-83	12" beige vinyl floor tile Black mastic	Storage 210	
41854.000-84	Grey pebble sheet vinyl flooring 12" beige vinyl floor tile Black mastic	Lounge kitchen 202	
41854.000-85	Beige ceramic floor tile Grey grout Grey Mortar bed	Men 212	
41854.000-86	Cream mastic Brown mastic	Office 215 associated with 4" grey vinyl cove base	
41854.000-87	Cream mastic	LV1 work room north area associated with fiberglass reinforced plastic panel	
41854.000-88	Hard mudded fitting ~6"	West basement above ceiling in custodial room	
41854.000-89	Hard mudded fitting ~4"	West basement above ceiling in custodial room	
41854.000-90	Cement board relite panel	North elevation east area below windows	
41854.000-91	Cement board relite panel	South elevation east area	
41854.000-92	White texture on grey plaster	Level 2 south elevation soffit	
41854.000-93	White texture on grey plaster	Level 2 east elevation soffit	
41854.000-94	Marble Crete	Level 2 southwest elevation corner	



202211187  
LABORATORY CHAIN OF CUSTODY

Project: Lakewood library

Project #: 41854.000 Page 2 of 2

**SAMPLE DATA FORM**

Sample #	Material	Location	Lab
41854.000-95	Marble Crete	Level 2 northeast elevation corner	
41854.000-96	Marble Crete	Level 2 southeast elevation corner	
41854.000-97	Brick and mortar	LV2 northeast elevation	
41854.000-98	Grey caulk	North elevation east area between window frame and concrete slab	
41854.000-99	Grey sealant on Black sealant	Level 2 roof north triangle window frame	
41854.000-100	White sealant on Black sealant	Level 2 north roof vent	
41854.000-101	Black sealant	Level 2 roof associated with fibrous skylight	
41854.000-102	Black flashing sealant	Level 1 roof at east triangle window	
41854.000-103	Grey window putty	Level 1 roof at east triangle window	
41854.000-104	Grey window caulk	Level 1 roof at east triangle window	
41854.000-105	Fibrous panel	Level 2 roof skylight east side	
41854.000-106	Black asphaltic material	Roof northeast roof drain	
41854.000-107	Composition shingles on asphaltic layer on wood	Level 2 roof east elevation	
41854.000-108	Black vapor barrier	Level 1 east area below plastic skylight panel	
41854.000-109	Asphaltic built-up roofing	Level 1 central flat roof	
41854.000-110	Asphaltic roofing on parapet	Level 1 center roof	

# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

Disclaimer: This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government.

## ANALYTICAL LABORATORY REPORT

[PLM] EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples;  
EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Attn.: Mark Hiley      Client: PBS Engineering and Environmental, Seattle      Address: 214 E Galer Street, Suite 300, Seattle, WA 98102  
Job#: 41854.000      Batch#: 202211187      Date Received: 10/4/2022  
Samples Rec'd: 32      Date Analyzed: 10/4/2022      Samples Analyzed: 32

Project Loc.: Lakewood Library

Analyzed by:  Cui Xu      Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	41854.000-79	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
2	41854.000-80	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	34	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
3	41854.000-81	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
4	41854.000-82	1	Yellow/blue mastic		None detected	Mastic/binder	5	Synthetic fibers, Cellulose
5	41854.000-83	1	Beige tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		2	Black mastic	3	Chrysotile	Mastic/binder	4	Cellulose
6	41854.000-84	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Beige tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		4	Black mastic	3	Chrysotile	Mastic/binder	3	Cellulose
7	41854.000-85	1	Beige ceramic		None detected	Ceramic/binder		None detected
		2	Gray brittle/sandy material		None detected	Binder, Sand	2	Cellulose
		3	Gray mastic		None detected	Mastic/binder	2	Cellulose
8	41854.000-86	1	Cream/brown mastic		None detected	Mastic/binder	4	Cellulose
9	41854.000-87	1	Cream mastic		None detected	Mastic/binder	3	Cellulose
10	41854.000-88	1	White powdery material with woven fibrous material and fibrous material		None detected	Binder/filler	36	Cellulose
11	41854.000-89	1	White powdery material with woven fibrous material and fibrous material		None detected	Binder/filler	35	Cellulose



# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

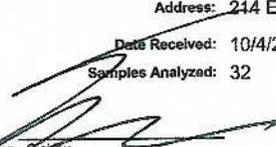
Disclaimer: This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government.

## ANALYTICAL LABORATORY REPORT

[PLM] EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples;  
EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Attn: Mark Hiley      Client: PBS Engineering and Environmental, Seattle      Address: 244 E Galer Street, Suite 300, Seattle, WA 98102  
Job#: 41854.000      Batch#: 202211187      Date Received: 10/4/2022  
Samples Rec'd: 32      Date Analyzed: 10/4/2022      Samples Analyzed: 32  
Project Loc.: Lakewood Library

Analyzed by:  Steve Zhang

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
29	41854.000-107	2	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	24	Glass fibers
		3	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	26	Glass fibers
		4	Black asphaltic material		None detected	Asphalt/binder	3	Cellulose
		5	Brown wood block		None detected	Wood aggregates	4	Cellulose
30	41854.000-108	1	Black asphaltic fibrous material		None detected	Filler, Asphalt, Binder	67	Cellulose
31	41854.000-109	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	24	Glass fibers
		2	Black asphaltic material		None detected	Asphalt/binder	3	Cellulose
		3	Black asphaltic material with fibrous material		None detected	Asphalt/binder, Filler	30	Glass fibers, Cellulose
		4	Black asphaltic material		None detected	Asphalt/binder	4	Cellulose
		5	Black asphaltic material with fibrous material		None detected	Asphalt/binder, Filler	30	Glass fibers, Cellulose
32	41854.000-110	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	25	Glass fibers
		2	Black asphaltic material		None detected	Asphalt/binder	4	Cellulose
		3	Black asphaltic material with fibrous material		None detected	Asphalt/binder, Filler	28	Glass fibers, Cellulose
		4	Black asphaltic material		None detected	Asphalt/binder	3	Cellulose

## **APPENDIX B**

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### **AA Lead Paint Chip Sampling Information**

AA Lead Paint Chip Sample Inventory

AA Lead Paint Chip Laboratory Data Sheets

AA Lead Paint Chip Chain of Custody Documentation

**AA LEAD PAINT CHIP SAMPLE INVENTORY**

<u>PBS Sample #</u>	<u>Paint Color / Component or Substrate</u>	<u>Sample Location</u>	<u>Results (mg/kg)</u>	<u>Results (%)</u>	<u>Lab</u>
41854.000 -Pb01	Brown / Metal / Doorframe	West basement custodian room	<98	<0.0098	NVL
41854.000 -Pb02	Beige / Wood frame / Column	Level 1 central area	<54	<0.0054	NVL
41854.000 -Pb03	Orange / Gypsum wallboard / Wall	Level 1 west wall of open area	<50	<0.0050	NVL
41854.000 -Pb04	Brown / Metal / Door	Book drop 110	<55	<0.0055	NVL
41854.000 -Pb05	Off-white / Gypsum wallboard / Wall	Gallery 206	<77	<0.0077	NVL
41854.000 -Pb06	Brown / Metal / Handrail	Level 2 at top of curved stairs	<48	<0.0048	NVL
41854.000 -Pb07	White / Cement board / Relite panel	South elevation east area	570	0.057	NVL
41854.000 -Pb08	Brown / Metal / Flashing	Level 2 roof east elevation	<110	<0.011	NVL

**mg/kg = Milligrams per kilogram**  
**< = Less than the Limit of Detection**

October 4, 2022

Mark Hiley

**PBS Environmental - Seattle**

214 E Galer St. Suite. 300

Seattle, WA 98102



**NVL Batch # 2217820.00**

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

Client Project: 41854.000

Location: Lakewood Library

Dear Mr. Hiley,

NVL Labs received 8 sample(s) for the said project on 10/4/2022. 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 Patel".

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 - Seattle  
Address: 214 E Galer St. Suite. 300  
Seattle, WA 98102

**Batch #: 2217820.00**

Matrix: Paint  
Method: EPA 3051/7000B  
Client Project #: 41854.000  
Date Received: 10/4/2022  
Samples Received: 8  
Samples Analyzed: 8

**Attention: Mr. Mark Hiley**  
Project Location: Lakewood Library

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
22411520	41854.000-Pb01	0.1024	98	< 98	<0.0098
22411521	41854.000-Pb02	0.1856	54	< 54	<0.0054
22411522	41854.000-Pb03	0.1994	50	< 50	<0.0050
22411523	41854.000-Pb04	0.1821	55	< 55	<0.0055
22411524	41854.000-Pb05	0.1303	77	< 77	<0.0077
22411525	41854.000-Pb06	0.2063	48	< 48	<0.0048
22411526	41854.000-Pb07	0.1838	54	570	0.057
22411527	41854.000-Pb08	0.0897	110	< 110	<0.011

Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2022

Date Issued: 10/04/2022

  
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: 2022-1004-02

FAA-02

# LEAD LABORATORY SERVICES



<b>Company</b> PBS Environmental - Seattle	<b>NVL Batch Number</b> <b>2217820.00</b>
<b>Address</b> 214 E Galer St. Suite. 300 Seattle, WA 98102	<b>TAT</b> 2 Days <b>AH</b> No
<b>Project Manager</b> Mr. Mark Hiley	<b>Rush TAT</b>
<b>Phone</b> (206) 233-9639	<b>Due Date</b> 10/6/2022 <b>Time</b> 10:40 AM
<b>Office:</b> (800) 628-9639	<b>Email</b> mark.hiley@pbsusa.com
	<b>Fax</b> (866) 727-0140

**Project Name/Number:** 41854.000      **Project Location:** Lakewood Library

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

**Total Number of Samples** 8      **Rush Samples** \_\_\_\_\_

Lab ID	Sample ID	Description	A/R
1	22411520	41854.000-Pb01	A
2	22411521	41854.000-Pb02	A
3	22411522	41854.000-Pb03	A
4	22411523	41854.000-Pb04	A
5	22411524	41854.000-Pb05	A
6	22411525	41854.000-Pb06	A
7	22411526	41854.000-Pb07	A
8	22411527	41854.000-Pb08	A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Courier				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Rachelle Miller		NVL	10/4/22	1040
<b>Analyzed by</b>	Yasuyuki Hida		NVL	10/4/22	
<b>Results Called by</b>					
<input type="checkbox"/> <b>Faxed</b> <input type="checkbox"/> <b>Emailed</b>					

**Special Instructions:** \_\_\_\_\_

Date: 10/4/2022  
 Time: 10:56 AM  
 Entered By: Rachelle Miller



Project: Lakewood library

Project #: 41854.000 Page 1 of 1

Analysis requested: FAA

Date: 10/3/2022

Relinqu'd by/Signature: Claire Tsai

Date/Time: 10/3/2022

Received by/Signature: Rachelle Miller

Date/Time: 10/4/22 10:40  
carson

Email ALL INVOICES to: [seattleap@pbsusa.com](mailto:seattleap@pbsusa.com)

E-mail results to:

- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Ryan Hunter
- Prudy Stoudt-McRae
- Janet Murphy

- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai
- Holly Tuttle
- Mike Smith
- Ferman Fletcher

- Cameron Budnick
- Mae Reilly
- Nick San
- Kameron DeMonnin
- \_\_\_\_\_

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other \_\_\_\_\_

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
41854.000-Pb01	Brown/ metal/ doorframe	West basement custodian room	NVL
41854.000-Pb02	Beige/ wood frame/ column	Level 1 central area	
41854.000-Pb03	Orange/ gypsum wallboard/ wall	Level 1 west wall of open area	
41854.000-Pb04	Brown/ metal/ door	Book drop 110	
41854.000-Pb05	Off-white/ gypsum wallboard/ wall	Gallery 206	
41854.000-Pb06	Brown/ metal/ handrail	Level 2 at top of curved stairs	
41854.000-Pb07	White/ cement board/ relite panel	South elevation east area	
41854.000-Pb08	Brown/ metal/ flashing	Level 2 roof east elevation	

---

## **APPENDIX C**

### **PCB Sampling Information**

PCB Sample Inventory

PCB Laboratory Data Sheets

PCB Chain of Custody Documentation

PCB SAMPLE INVENTORY

<u>PBS Sample #</u>	<u>Material</u>	<u>Sample Location</u>	<u>Analyte</u>	<u>Lab Results (mg/kg)</u>	<u>Lab</u>
41854.000 -PCB01	Cream caulk	West basement mechanical room AHU #2	Aroclor 1016	<9.2	NVL
			Aroclor 1221	<9.2	
			Aroclor 1232	<9.2	
			Aroclor 1242	<9.2	
			Aroclor 1248	<9.2	
			Aroclor 1254	<9.2	
			Aroclor 1260	<9.2	
			<b>Total PCBs</b>	<9.2	
41854.000 -PCB02	Cream caulk	Southeast basement mechanical room on HVAC	Aroclor 1016	<4.5	NVL
			Aroclor 1221	<4.5	
			Aroclor 1232	<4.5	
			Aroclor 1242	<4.5	
			Aroclor 1248	<4.5	
			Aroclor 1254	<4.5	
			Aroclor 1260	<4.5	
			<b>Total PCBs</b>	<4.5	
41854.000 -PCB03	Black window caulk	West elevation south area frame to building	Aroclor 1016	<1.7	NVL
			Aroclor 1221	<1.7	
			Aroclor 1232	<1.7	
			Aroclor 1242	<1.7	
			Aroclor 1248	<1.7	
			Aroclor 1254	<1.7	
			Aroclor 1260	<1.7	
			<b>Total PCBs</b>	<1.7	
41854.000 -PCB04	Black doorframe caulk	West elevation north door	Aroclor 1016	<0.87	NVL
			Aroclor 1221	<0.87	
			Aroclor 1232	<0.87	
			Aroclor 1242	<0.87	

mg/kg = Milligrams per kilogram  
< = Less than the Limit of Detection

<u>PBS Sample #</u>	<u>Material</u>	<u>Sample Location</u>	<u>Analyte</u>	<u>Lab Results (mg/kg)</u>	<u>Lab</u>
			Aroclor 1248	<0.87	
			Aroclor 1254	<0.87	
			Aroclor 1260	<0.87	
			<b>Total PCBs</b>	<0.87	

October 5, 2022



Mr. Mark Hiley

PBS Environmental  
214 E Galer St. Suite 300  
Seattle, WA 98102

Re: **NVL Batch 2217822.00**

Project Name/Number: 41854.000

Project location: Lakewood Library

Dear Mr. Hiley,

Enclosed please find test results for samples submitted to our laboratory for analysis. Preparation and analysis of these samples were conducted in accordance with published industry standards and methods specified on the attached analytical report.

The content of this package consists of the following:

- Case Narrative & Definition of Data Qualifiers
- Analytical Test Results
- Applicable QC Summary
- Client Chain-of-Custody (CoC)
- NVL Receiving Record

The report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

Enclosure: Sample Results

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**Phone: 206.547.0100 | Fax: 206.634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)**  
**4708 Aurora Avenue North | Seattle, WA 98103**



### **Case Narrative:**

The following summarizes samples received on date as shown on the accompanied Chain of custody by NVL Laboratories, Inc. from PBS Environmental - Seattle for Project Number BPO 41854.000. Samples were logged in for PCB analysis per client request using both customer sample ID's and laboratory assigned ID's as listed on the Chain-of-Custody (CoC). All samples as received were processed and analyzed within specified turnaround time without any abnormalities and deviations that may affect the analytical results. All quality control requirements were acceptable unless stated otherwise. The conditions of all samples were acceptable at time of receipt and all samples submitted with this batch were analyzed unless stated otherwise on the CoC.

Test Results are reported in milligram per kilogram (mg/kg) for PCB samples as shown on the analytical reports.



## Definition Appendix

### Terms

% Rec	Percent recovery.
<	Below Reporting Limit(RL) or Limit of Quantitation(LoQ) of the instrument.
B	Blank contamination. The recorded results is associated with a contaminated blank.
DF	Dilution Factor
J	The reported concentration is an estimated value because something may be present in the sample that interfered with the analysis.
J1	The reported concentration is an estimated value because the laboratory control sample (LCS) is out of control limits.
J2	The reported concentration is an estimated value because the percent recovery for matrix spike is out of control limits.
J3	The reported concentration is an estimated value because the relative percent difference(RPD) for duplicate analysis is out of control limits.
J4	Percent recovery is outside of established control limits.
LCS	Laboratory Control Sample.
LFS	Laboratory Fortified Spike
Limits	The upper and lower control limits for spike recoveries.
LN	Quality control sample is outside of control limits. This analyte was not detected in the sample.
LOQ	Limit of quantitation( same as RL)
mg/kg	Milligrams per kilogram.
ND	Analyte not detected or below the reporting limit of the instrument or methodology



## Definition Appendix

### Terms

PPM	Parts per Million.
QC Batch Group	Quality Control Batch Group. The entity that links analytical results and supporting quality control results.
R	The data are not reliable due to possible contamination or loss of material during preparation or analysis. Re-sampling and reanalysis are necessary for verification.
RL	Reporting Limit. The minimum concentration that can be quantified under routine operating conditions.
RPD	Relative Percent Difference. The relative difference between duplicate results( matrix spike, blank spike, or samples duplicate) expressed as a percentage.
RPD Limit	The maximum RPD allowed for a set of duplicate measurements(see RPD).
SMI	Surrogate has matrix interference.
Spike Conc.	The measured concentration, in sample basis units, of a spiked sample.
SURR-ND	Surrogate was not detected due to matrix interference or dilution.
ug/m3	Micrograms per cubic meter.
ug/mL	Micrograms per milliliter
mg/Kg	milligram per kilogram



# ANALYSIS REPORT

## Polychlorinated Biphenyls by Gas Chromatography

Client	PBS Environmental	Samples Received*	4
SDG Number	2217822.00	Analyzed By	Evelyn Ahulu
Date Reported	10/05/2022	Samples Analyzed*	4
Project Number	41854.000	Analysis Method	8082A
Location	Lakewood Library	Preparation Method	3546PR (PCB)

\* for this test only

<b>Sample Number</b>	<b>41854.000-PCB01</b>	Received	10/04/2022
Lab Sample ID	22411532	Matrix	Material
Initial Sample Size	2.1814 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	9.2	< 9.2	10/04/2022
Aroclor-1221	9.2	< 9.2	10/04/2022
Aroclor-1232	9.2	< 9.2	10/04/2022
Aroclor-1242	9.2	< 9.2	10/04/2022
Aroclor-1248	9.2	< 9.2	10/04/2022
Aroclor-1254	9.2	< 9.2	10/04/2022
Aroclor-1260	9.2	< 9.2	10/04/2022
<b>PCBs, Total</b>	<b>9.2</b>	<b>&lt;9.2</b>	

*Comments: Reporting limit raised due to dilution (matrix interference).*

<b>Sample Number</b>	<b>41854.000-PCB02</b>	Received	10/04/2022
Lab Sample ID	22411533	Matrix	Material
Initial Sample Size	2.2277 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	4.5	< 4.5	10/04/2022
Aroclor-1221	4.5	< 4.5	10/04/2022
Aroclor-1232	4.5	< 4.5	10/04/2022
Aroclor-1242	4.5	< 4.5	10/04/2022
Aroclor-1248	4.5	< 4.5	10/04/2022
Aroclor-1254	4.5	< 4.5	10/04/2022
Aroclor-1260	4.5	< 4.5	10/04/2022
<b>PCBs, Total</b>	<b>4.5</b>	<b>&lt;4.5</b>	

*Comments: Reporting limit raised due to dilution (matrix interference).*

# ANALYSIS REPORT



## Polychlorinated Biphenyls by Gas Chromatography

<b>Sample Number</b>	<b>41854.000-PCB03</b>	Received	10/04/2022
Lab Sample ID	22411534	Matrix	Material
Initial Sample Size	1.1985 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	1.7	< 1.7	10/04/2022
Aroclor-1221	1.7	< 1.7	10/04/2022
Aroclor-1232	1.7	< 1.7	10/04/2022
Aroclor-1242	1.7	< 1.7	10/04/2022
Aroclor-1248	1.7	< 1.7	10/04/2022
Aroclor-1254	1.7	< 1.7	10/04/2022
Aroclor-1260	1.7	< 1.7	10/04/2022
<b>PCBs, Total</b>	<b>1.7</b>	<b>&lt;1.7</b>	

*Comments: Reporting limit raised due to small sample size.*

<b>Sample Number</b>	<b>41854.000-PCB04</b>	Received	10/04/2022
Lab Sample ID	22411535	Matrix	Material
Initial Sample Size	2.306 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.87	< 0.87	10/04/2022
Aroclor-1221	0.87	< 0.87	10/04/2022
Aroclor-1232	0.87	< 0.87	10/04/2022
Aroclor-1242	0.87	< 0.87	10/04/2022
Aroclor-1248	0.87	< 0.87	10/04/2022
Aroclor-1254	0.87	< 0.87	10/04/2022
Aroclor-1260	0.87	< 0.87	10/04/2022
<b>PCBs, Total</b>	<b>0.87</b>	<b>&lt;0.87</b>	

### Quality Control Results

<b>Project Number:</b>	<b>41854.000</b>	<b>SDG Number:</b>	<b>2217822</b>
		<b>Project Manager:</b>	<b>Mark Hiley</b>
<b>QC Batch(es):</b>	<b>Q1716</b>	<b>Analysis Method:</b>	<b>8082A</b>
<b>QC Batch Method:</b>	<b>3546PR (PCB)</b>	<b>Analysis Description:</b>	<b>Polychlorinated Biphenyls by Gas Chromatography</b>
<b>Preparation Date:</b>	<b>10/04/2022</b>		
<b>Blank: MBLK-2217822</b>			

Analyte	Blank Result	Units	DF	RL	Control Limit	Qualifiers
Aroclor-1016	ND	mg/Kg	1	1	1.0	
Aroclor-1221	ND	mg/Kg	1	1	1.0	
Aroclor-1232	ND	mg/Kg	1	1	1.0	
Aroclor-1242	ND	mg/Kg	1	1	1.0	
Aroclor-1248	ND	mg/Kg	1	1	1.0	
Aroclor-1254	ND	mg/Kg	1	1	1.0	
Aroclor-1260	ND	mg/Kg	1	1	1.0	
PCBs, Total	ND	mg/Kg	1	1	1.0	
<i>Surrogates:</i>				% Rec		
Tetrachloro-m-xylene			1		93	40-140
Decachlorobiphenyl			1		105	40-140

**Lab Control Sample: LCS-2217822**

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Aroclor-1254	19	mg/Kg	1	20.0	95	40-140	
<i>Surrogates:</i>							
Tetrachloro-m-xylene			1		70	40-140	
Decachlorobiphenyl			1		104	40-140	

**Lab Control Sample: LCS-1016+1260-2217822**

**Lab Control Sample Duplicate: LCS Dup-1016+1260-2217822**

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	16.6	mg/Kg	1	20.0	83	40-140			
	16.8			20.0	84	40-140	1.2	50	
Aroclor-1260	19.6	mg/Kg	1	20.0	98	40-140			
	19.4			20.0	97	40-140	0.9	50	
<i>Surrogates:</i>									
Tetrachloro-m-xylene			1		95	40-140			
					92	40-140			
Decachlorobiphenyl			1		108	40-140			
					108	40-140			



### Surrogate Recovery Summary Report

Client <u>PBS Environmental</u>		SDG Number <u>2217822</u>		
Project <u>41854.000</u>				
Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
41854.000-PCB01-DL	22411532DL1	Decachlorobiphenyl	76%	40-140
41854.000-PCB01-DL	22411532DL1	Tetrachloro-m-xylene	52%	40-140
41854.000-PCB02-DL	22411533DL1	Decachlorobiphenyl	100%	40-140
41854.000-PCB02-DL	22411533DL1	Tetrachloro-m-xylene	101%	40-140
41854.000-PCB03	22411534	Decachlorobiphenyl	94%	40-140
41854.000-PCB03	22411534	Tetrachloro-m-xylene	77%	40-140
41854.000-PCB04	22411535	Decachlorobiphenyl	115%	40-140
41854.000-PCB04	22411535	Tetrachloro-m-xylene	95%	40-140
LCS Dup-1016+1260-2217822	LCS Dup-1016+1260-2217822	Decachlorobiphenyl	108%	40-140
LCS Dup-1016+1260-2217822	LCS Dup-1016+1260-2217822	Tetrachloro-m-xylene	92%	40-140
LCS-1016+1260-2217822	LCS-1016+1260-2217822	Decachlorobiphenyl	108%	40-140
LCS-1016+1260-2217822	LCS-1016+1260-2217822	Tetrachloro-m-xylene	95%	40-140
LCS-2217822	LCS-2217822	Decachlorobiphenyl	104%	40-140
LCS-2217822	LCS-2217822	Tetrachloro-m-xylene	70%	40-140
MBLK-2217822	MBLK-2217822	Decachlorobiphenyl	105%	40-140
MBLK-2217822	MBLK-2217822	Tetrachloro-m-xylene	93%	40-140

\* Recovery outside limits



**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

SDG No: **2217822**

Contract: **N/A**

Determination: **8082 PCB Aroclors <Material>**

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R001709	CCV1 1016-1260	PCB_2022-1-2	10/04/2022	Aroclor-1016	5	5	ug/mL	100	80-120
		PCB_2022-1-2	10/04/2022	Aroclor-1260	5	5	ug/mL	100	80-120
	CCV1 1254	PCB_2022-1-3	10/04/2022	Aroclor-1254	5	5	ug/mL	100	80-120
	ICV 1016-1254- 1260	PCB_2022-1-4	10/04/2022	Aroclor-1016	5	4.998	ug/mL	100	85-115
		PCB_2022-1-4	10/04/2022	Aroclor-1254	5	5.191	ug/mL	104	85-115
		PCB_2022-1-4	10/04/2022	Aroclor-1260	5	5.585	ug/mL	112	85-115
	CCV2 1016-1260	PCB_2022-1-2	10/04/2022	Aroclor-1016	5	5.258	ug/mL	105	80-120
		PCB_2022-1-2	10/04/2022	Aroclor-1260	5	5.353	ug/mL	107	80-120
	CCV2 1254	PCB_2022-1-3	10/04/2022	Aroclor-1254	5	5.126	ug/mL	103	80-120

% Rec = Percent recovery

\* = Percent recovery not within control limits

# ORGANICS LABORATORY SERVICES



**Company** PBS Environmental - Seattle  
**Address** 214 E Galer St. Suite 300  
 Seattle, WA 98102  
**Project Manager** Mr. Mark Hiley  
**Phone** (206) 233-9639  
**Office:** (800) 628-9639

**NVL Batch Number** 2217822.00  
**TAT** 3 Days **AH No**  
**Rush TAT**  
**Due Date** 10/7/2022 **Time** 10:40 AM  
**Email** mark.hiley@pbsusa.com  
**Fax** (866) 727-0140

**Project Name/Number:** 41854.000 **Project Location:** Lakewood Library

**Subcategory** Quantitative analysis  
**Item Code** ORG-05 **Method** 8082 PCB Aroclors <Bulk>

**Total Number of Samples** 4 **Rush Samples**

	Lab ID	Sample ID	Description	A/R
1	22411532	41854.000-PCB01		A
2	22411533	41854.000-PCB02		A
3	22411534	41854.000-PCB03		A
4	22411535	41854.000-PCB04		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Courier				
<b>Office Use Only</b>	<b>Print Name</b>	<b>Signature</b>	<b>Company</b>	<b>Date</b>	<b>Time</b>
<b>Received by</b>	Rachelle Miller		NVL	10/4/22	1040
<b>Analyzed by</b>	Evelyn Ambr		NVL	10/4/22	16:00
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					
<b>Special Instructions:</b>					

Entered By: Rachelle Miller Date: 10/4/2022 Time: 11:03 AM 1 of 1



## **APPENDIX D**

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### **PBS Inspector Certifications**

THIS IS TO CERTIFY THAT

**CLAIRE TSAI**

**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: 12/10/2021

Course Location: Online,

Certificate: IR-21-7316B



**CCB #SRA0615 4-Hr Training**

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:** 12/10/2022

For verification of the authenticity of this certificate contact:  
PBS Engineering and Environmental Inc.  
4412 S Corbett Avenue  
Portland, Oregon 97239  
503.248.1939

A handwritten signature in black ink that reads "Andy Fridley".

Andy Fridley, Instructor