

Hazardous Materials Survey Report

Pierce College, Olympic South

Post Abatement

9401 Farwest Drive SW
Lakewood, Washington 98498

Prepared for:
State of Washington
Department of Enterprise Services
PO Box 41012
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PBS Project 40535.488



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1 INTRODUCTION

1.1 Project Background

In March 2021 asbestos contamination was discovered in the surface dust throughout the Olympic South Building, located at Pierce College, 9401 Farwest Drive SW in Lakewood, Washington. From August 2021 through June 2022 a professional abatement firm performed demolition, abatement of some hazardous materials, and cleaning throughout the building. Interior finishes were removed. Remaining building components (i.e. structural, plumbing, and the building envelope) were thoroughly cleaned in place.

Due to the fact that not all of the asbestos-containing materials (ACMs) were removed, Pierce College requested that PBS document the remaining ACMs, lead-containing paint (LCP), mercury-containing components, and polychlorinated biphenyl (PCB) containing components.

One intent of this investigation is to ensure that Washington State Department of Enterprise Services (DES) and Pierce College are in compliance with applicable regulatory requirements that a "good faith inspection" for ACMs be performed prior to renovation/demolition activities.

1.2 Building Description

The Olympic South Building is a three-story, slab-on-grade structure. The existing exterior is finished with stucco, Marble Crete, exterior insulation and finish system (EIFS) and metal cladding. The existing interior systems and components that remain include the following; concrete floor slabs, concrete ceiling waffle slabs on first and second floors, corrugated steel ceiling underdeck on the third floor, uninsulated hot and cold water piping, electrical conduit, breaker boxes, steel structural framing, fire sprinkler system, perimeter metal wall framing and exterior gypsum wallboard, in-place perimeter doors and windows, and CMU blocks on the second floor. The roofing is a membrane type material. The building does not include the skybridge to Cascade.

1.3 Survey Process

Accessible areas included in the project scope were inspected from August 2021 through June 2022, as concealed materials became accessible from demolition activities, by Asbestos Hazard Emergency Response Act (AHERA) Certified Building Inspectors Claire Tsai (Cert. No. IR-21-7316B Exp. 12/10/2022), Peter Stensland (Cert. No. IN-21-9342B Exp. 6/16/2022), and Ferman Fletcher (Cert. No. 184489 Exp. 4/5/2023). 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 in order to gain access. Previous survey data utilized is included in this report. Many of the materials identified in previous reports have been abated and therefore are no longer present in the building. See Appendix A for pre abatement good faith survey report.

When observed, suspect materials were sampled, or presumed to contain asbestos. Samples were assigned a unique identification number and transmitted for analysis to Seattle Asbestos Test (NVLAP #201057-0), NVL Labs (NVLAP #102063-0), or ALS Environmental (NVLAP #101917-0) 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. Information regarding the type and location of sampled materials can be found on the attached PLM sample inventory located in Appendix B.

PBS discovered during the abatement work that some of the asbestos fibers in masonry products were too thin to be optically observed by the PLM Method. A letter providing further information regarding the differences between PLM and TEM analysis was provided by Lab/Cor Inc. and can be found in Appendix C.

As such, these products were also analyzed by the transmission electron microscopy (TEM) methodology. Additional samples were collected and assigned unique identification numbers and transmitted for analysis to Lab/Cor in Seattle, Washington or ALS Environmental in Cincinnati, Ohio under chain-of-custody protocols. Samples were analyzed according to ELAP Item 198.4 TEM Bulk Semi-Quantitative (modified). Information regarding the type and location of sampled materials can be found on the attached TEM sample inventory located in Appendix D.

Suspect ACMs may exist in inaccessible areas or areas outside of the scope of work. PBS endeavored to determine the presence of suspect materials in all accessible areas included in the scope of work. While PBS has endeavored to identify the ACMs that 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. Previous reports list ACMs that have been abated. All known materials containing asbestos, and locations impacted by asbestos contaminated dust remaining in the building are listed below.

The following materials were determined to contain **greater than 1% asbestos**:

- **Marble Crete** exposed and concealed under plaster and EIFS in various locations– Building exterior north elevation on first and second floors, east elevation on first and second floors, west elevation north area on first and second floors, and south elevation on level 1 (Approximately 6,850 SF);
- **CMU** – South area of level 2 (Approximately 2,270 SF);
- **Plaster** – The underside of level 2 skybridge from Olympic South to Cascade (Approximately 750 SF);
- **Black mastic** – Located below the sill plate of the perimeter metal wall studs throughout the second floor (Approximately 575 LF);
- **Residual grey sealant and white caulking** beneath non-asbestos dark grey sealant –Level 1 south and east store front windows, Level 1 and 2 north elevation windows, Northwest stairwell/ storefront windows Level 1 and 2, south elevation of the northeast quadrant windows (Approximately 870 LF);
- **Concealed brown/grey adhesive** –Window rough openings on Level 1 south store front windows, Level 1 and 2 north elevation windows, south elevation of the northeast quadrant windows, west elevation three southern windows (Approximately 850 LF).

The following materials remaining in the building were determined to contain **less than 1% asbestos**:

- Plaster – Exterior of east stairwell level 1, 2 and 3 (Approximately 2,450 SF);
- Concrete – All concrete throughout building and stairwell;
- Site soils – All non-hardscaped areas surrounding the building.

The following materials remaining in the building were determined ***not to contain*** detectable concentrations of asbestos:

- EIFS paneling – North, east, and south elevation;
- Joint compound associated with gypsum wallboard systems – Third floor above north windows and student lounge north and west walls;
- Residual tan, brown, cream, and clear cove base mastics – Throughout all floors on columns (current and previous data);
- Residual carpet mastic in cracks and crevices – Throughout all floors and stairwell (current and previous data);
- Residual white leveling compound in cracks and crevices – Levels 1 and 2;
- Soft gray window sealant between glass and frame – Previous location of room 168 interior;
- Soft black window sealant between glass and frame – Previous location of room 181 interior;
- Residual red firestop in cracks and crevices – In various areas throughout all floors and stairwell;
- Dark grey transition sealant – Surrounding substrates on the south and west elevation of the first floor (first floor exterior and roof, previous data);
- Membrane roofing and associated insulation (first floor exterior and roof, previous data).

Note: No access for sampling third floor exterior window components.

Accumulated Dust Sampling

Certain areas were inaccessible for cleaning for reasons such as electrical hazards or inaccessibility. Asbestos-contaminated dust is presumed to exist in the following locations:

- Sealed conduit embedded in concrete ceiling and floor slabs – Throughout the building;
- Sealed Conduit buried beneath slab;
- Sealed structural brace framing interiors – All floors and stairwell;
- Sealed exterior column cavities – South and east elevations;
- Sealed cavity below skybridge to Cascade.
- Transformer – West elevation between Olympic South and Olympic North;
- Exterior power shut off panel and conduit – West elevation;
- Sub grade electrical vaults – East and west elevations;
- Conduit associated with emergency power – Level 1 north area overhead conduit runs from Cascade to Olympic North;
- Emergency power disconnect – Near northeast entrance.

Conduit penetrations and structural brace framing have been sealed in place with fire stop or spray foam where accessible. All asbestos contaminated dust locations should be presumed to contain greater than 1% asbestos until sampled and proven otherwise.

For approximate quantities and specific locations of all ACMs remaining in the building refer to the Hazardous Materials Sample Diagram in Appendix E. For a complete listing of representative bulk sampling and associated laboratory analysis refer to the attached Appendix B for PLM data, Appendix D for TEM data, and Appendix F for CARB 435 data. Not all materials listed in previous reports remain in building.

2.2 LCP

Representative painted coatings were sampled for lead content. Previous materials survey data was also reviewed as part of this investigation. The samples were assigned unique identification numbers and transmitted to NVL Laboratories (AIHA IH #101861) in Seattle, Washington, under chain-of-custody protocols for analysis using Flame Atomic Absorption. Current sampling and previous sample results are indicated below. LCP is paint that contains any detectable amount of lead.

The following samples were found to **contain lead above** detectable limits. All similar surfaces should be presumed to contain similar amounts of lead and handled in accordance with Washington Administrative Code 296-155 Lead.

- Tan painted concrete column – column by room O264, 0.0003% lead (previous data)
- Tan painted wood door – south elevation, 0.020% lead (previous data, labeled west elevation in previous reports)

Refer to Appendix A for specific sample locations from previous survey data.

2.3 Mercury-Containing Components

No mercury containing components remain in the building.

2.4 PCB-Containing Components

In school structures of this age caulks, sealants and putties have been known to contain PCBs. PBS tested representative suspect materials for the presence of PCBs throughout the project site. 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 sampled and found **not to contain PCBs**:

- Grey interior window caulk – Level 1 north window
- Dark grey storefront sealant – West elevation (previous data)

See Appendix G for PCB inventories and laboratory reports. See Appendix A for previous data.

2.5 Fungal Contaminated Materials

Water damage and fungal growth was observed on the original building envelope. Original building envelope remains on the entire north elevation Levels 1 and 2, the two north column sections on the east elevation and Level 2 west. column south of skybridge to Olympic North. Trained personnel using proper engineering controls are required to remediate fungal contamination throughout the space.

3 RECOMMENDATIONS

3.1 ACMs

PBS recommends that all exposed and concealed ACMs to be impacted by future work be removed prior to construction 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.

WAC 296-62-07 identifies a regulated "asbestos-containing material" as "containing more than 1% asbestos" content by weight. The referenced code also contains rules regarding materials that contain less than 1% asbestos. These materials are not regulated by EPA or local Clean Air Agencies. It is not considered a Class I, II, III or IV work. Requirements for handling <1% asbestos are found in WAC 296-62-07712 (2,4 and 5), WAC

296-62-07722(5) and WAC 296-62-07728. A Competent person must conduct a negative exposure assessment and periodic monitoring. When working with these materials' wet methods, HEPA vacuums and prompt cleanup must be performed. 2-hr Awareness training is required for all workers disturbing this material. Items/activities that are not required for materials that contain less than 1% asbestos include; labeled disposal bags, asbestos worker certification, supervisor or contractor certifications, pre-demolition removal of the materials, and pre-removal notifications to regulatory agencies.

The possibility exist that suspect ACMs may be present in equipment, wall and ceiling cavities, beneath concrete slabs, and buried in site soils included in the scope of the work. These may include, but are not limited to waterproofing membranes and coatings, internal gaskets, pipe insulation, piping materials, caulking and sealants, construction adhesives, and wall mastics. If suspect ACMs is uncovered during construction, contractors should stop work immediately and inform the owner promptly for confirmation testing. All untested materials should be presumed asbestos-containing or tested for asbestos content prior to impact.

Additional suspect-ACMs may be present in concealed spaces. Caution should always be exercised during selective demolition to prevent impact of suspect-ACMs. All suspect ACMs should be presumed asbestos-containing until properly sampled and analyzed.

3.2 LCP

Painted coatings may exist in inaccessible areas of the work area or in secondary coatings. Any previously unidentified painted coatings should be considered lead containing until sampled and proven otherwise. All waste shall be handled in accordance with WAC 173-303. Dust control and housekeeping is crucial in preventing worker and occupant exposures.

Impact of painted surfaces with detectable concentrations of lead requires construction activities to be performed according to Washington State Department of Labor and Industries (L&I) regulations for Lead in Construction (WAC 296-155-176 and 296-62). Workers impacting LCP should be provided the proper personal protective equipment and use proper work methods to limit occupational and environmental exposure to lead until an initial exposure assessment has been conducted.

3.3 PCB-Containing Components

PCBs were not found during this investigation.

If additional suspect PCB-containing components are uncovered during construction, contractors should stop work immediately and inform the owner promptly for confirmation testing.

3.4 Fungal Contaminated Materials

All known fungal growth and water impacted materials should be removed. Trained personnel using proper engineering controls are required to remediate fungal contaminants in all locations throughout the space in accordance with the EPA document "*Mold Remediation in Schools and Commercial Buildings*".

Workers opening up EIFS wall cavities or performing demolition of the exterior cladding should anticipate potential exposure to fungal contaminants. Workers should be provided proper training, personal protective equipment and use proper work methods to limit occupational and environmental exposure to fungal contaminants. Engineering controls should be used to prevent fungal contaminants from entering the building.

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

Report prepared by:
PBS Engineering and Environmental Inc.

Claire Tsai
AHERA Building Inspector
Cert. # IR-21-7316B, expiration 12/10/2022

Report reviewed by:
Gregg Middaugh
Senior Project Manager

APPENDIX A

Pre-Abatement Hazmat Report

Pierce College Olympic South Abatement and Repairs (July 2021)

Hazardous Materials Survey Report

Pierce College, Olympic South

Abatement and Repairs

9401 Farwest Drive SW

Lakewood, Washington 98498

Prepared for:

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Department of Enterprise Services

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PLM Bulk Sample Inventory

PLM Bulk Sample Laboratory Data Sheets and Chain of Custody Documentation

Appendix B: TEM Bulk Sampling Information

TEM Bulk Sample Inventory

TEM Bulk Sample Laboratory Data Sheets and Chain of Custody Documentation

Appendix C: AA Lead Paint Chip Sampling Information

AA Lead Paint Chip Sample Inventory

AA Lead Paint Chip Laboratory Data Sheets and Chain of Custody Documentation

Appendix D: Previous Survey Reports

Olympic South Building Minor Music Improvements Project (May 2016)

Olympic Building Early Childhood Education Center Renovations (March 2020)

Olympic Building Partial Reclad and Roof Replacement (March 2020)

Appendix E: Certifications

1 INTRODUCTION

1.1 Project Background

PBS Engineering and Environmental Inc. (PBS) performed a limited hazardous materials survey of the Olympic South Building, located at Pierce College, 9401 Farwest Drive SW in Lakewood, Washington, in conjunction with the Abatement and Repairs project. The intent of this investigation is to ensure that Washington State Department of Enterprise Services (DES) and Pierce College are in compliance with applicable regulatory requirements that a "good faith inspection" for asbestos-containing materials (ACMs) be performed prior to renovation/demolition activities.

At the request of DES and Pierce College, all accessible areas were inspected for the presence of ACMs, lead-containing paint (LCP) and associated components, mercury-containing components, and polychlorinated biphenyl (PCB) containing light fixture ballasts.

1.2 Building Description

The Olympic South Building is a three-story, slab-on-grade structure. The exterior is finished with stucco, marble crete, and exterior finish and insulation (EIFS). Interior ceiling finishes include both suspended tile systems and hard lid gypsum wallboard. Walls are constructed of concrete or gypsum wallboard with fiberglass insulation. Floors are concrete covered with glued down carpet, and sheet vinyl or vinyl floor tile (VFT).

1.3 Survey Process

Accessible areas included in the project scope were inspected in March and April of 2021 by Asbestos Hazard Emergency Response Act (AHERA) Certified Building Inspectors Claire Tsai (Cert. No. IRO-21-7316B Exp. 1/18/2022), Ferman Fletcher (Cert. No. IR-20-8539B Exp. 4/1/2021 and Cert. No. IR-21-8539B Exp. 4/1/2022), Stefan Rankin (Cert. No. IRO-20-5564B Exp. 9/3/2021), and Nick Parr (Cert. No. IRO-20-4749B Exp. 9/3/2021). 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 in order to gain access. As-built drawings were provided by the project team for review to help develop inspection strategies. PBS also utilized previous survey reporting and sample data for developing inspection sampling strategies. Previous survey data utilized is included in this report.

When observed, suspect materials were sampled, or presumed to contain asbestos. All samples were assigned a unique identification number and transmitted for analysis to Seattle Asbestos Test (NVLAP #201057-0) 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. Information regarding the type and location of sampled materials can be found on the attached PLM Sample Inventory located in Appendix A.

Suspect ACMs may exist in inaccessible areas or areas outside of the scope of work. PBS endeavored to determine the presence and estimate the condition of suspect materials in all accessible areas included in the scope of work. While PBS has endeavored to identify the ACMs that may be found in concealed locations, additional unidentified ACMs may exist.

2 FINDINGS

2.1 Asbestos-Containing Materials (ACMs)

The following materials were determined to contain greater than 1% asbestos:

- White vibration cloth – on ducting in mechanical spaces throughout the building
- Black sink undercoat – Room 164 (2 EA)
- Soft grey column caulk – Room 283 (approximately 30 LF)
- Pink undercoating on sink – Room O285A and O166A (previous data)
- White mastic on the HVAC duct systems throughout the building above suspended ceilings (previous data)
- Glue dots underneath 12-inch by 12-inch (non-ACM) acoustical ceiling tiles in Rooms 276 and 272 (approximately 300 SF, previous data)
- Residual grey sealant beneath non-asbestos dark grey sealant – first floor west elevation on northwest corner column, sealant between concrete deck and metal storefront (approximately 70 LF, previous data)
- Felt backing associated with gray pebble pattern sheet vinyl flooring – Room O161 sink area (approximately 400 SF, previous data)
- Felt backing associated with brown pebble pattern sheet vinyl flooring – Room O161 kitchen (approximately 230 SF, previous data)
- White sink undercoat – Room O161 kitchen (double sink, previous data)
- Joint compound associated with gypsum wallboard systems

The following materials were determined to contain less than 1% asbestos:

- Spray-applied fireproofing on metal corrugated deck and building structure and associated debris on mechanical, electrical, plumbing equipment, and suspended ceiling surfaces – Rooms 281, 282, 283, 283A, 284, 284A, south end of associated corridor, south end of Room 278, and the Mechanical Mezzanine (approximately 4,500 SF)
- Joint compound associated with gypsum wallboard systems – first floor columns and various walls in the Early Childhood Education (ECE) playroom 161

The following materials were sampled and found not to contain detectable concentrations of asbestos:

- Joint compound associated with gypsum wallboard systems – throughout the second and third floor
- 2-feet by 4-feet Lay-in-ceiling-tile, various patterns – throughout all floors (current and previous data)
- 2-feet by 2-feet Lay-in-ceiling-tile, various patterns – throughout all floors (current and previous data)
- Tan, brown, cream, and clear covebase mastic – throughout all floors (current and previous data)
- Carpet mastic – throughout all floors (current and previous data)
- Gray sheet vinyl flooring, mastic, white leveling compound – Room 168
- White, woven wallpaper – Room O161 column
- White caulking on backsplash – Room 164 east side
- Fire door core – Room 181A
- Soft gray window sealant between glass and frame – Room 168 interior
- Soft beige window sealant between frame and floor – North Hall, west interior
- Soft black window sealant between glass and frame – Room 181 interior
- Gray duct seam sealant – Mechanical Room 173, southwest ducting
- Concrete floor/ceiling – throughout first floor locations
- Red fire-stop – Room 160 at columns
- 1-inch tan ceramic tile and associated gray grout – Room 165
- 3-inch white ceramic covebase tile, gray grout, and clear mastic – Room 165
- Fiberboard debris – above suspended ceiling ECE portion of building

- Hard mudded fittings – throughout all floors (current and previous data)
- White 12-inch by 12-inch VFT and associated black mastic (Level 2, Arts and Music Wing, previous data)
- Brown vinyl threshold (Level 2, Arts and Music Wing, previous data)
- Gray and red mastics on HVAC systems in ceiling (Level 2, Arts and Music Wing, previous data)
- Brown fabric on accordion door (Level 2, Arts and Music Wing, previous data)
- Window putty (between frame and glass) interior windows - Rooms O160, O161, O162, O166, and O166A (previous data)
- Marblecrete paneling – south and west elevation (first floor exterior and roof, previous sampling)
- Dark grey transition sealant – surrounding substrates on the south and west elevation of the first floor (first floor exterior and roof, previous data)
- EIFS paneling – north, east, and south elevation (first floor exterior and roof, previous data)
- Membrane roofing and associated insulation (first floor exterior and roof, previous data)

Refer to Appendix A and B for specific sample locations and associated laboratory reports. Refer to Appendix D for specific sample locations from previous survey data.

Accumulated Dust Sampling

PBS collected surface dust samples throughout the building. Surface dust samples were collected from HVAC system components, building contents, and surfaces above and below the suspended ceilings. Surface dust sampling is used as a screening tool to identify asbestos structures in accumulated dust. Surface dust sampling does not indicate when the asbestos contamination occurred, however, provides information on the quantity and type of asbestos in the dust. Laboratory analysis reports of the accumulated surface dust revealed the following:

- Asbestos forms found by laboratory analysis included chrysotile, anthophyllite, actinolite, tremolite, winchite and richterite.
- Significant asbestos contamination was found in the surface dust throughout the building. It was determined that a historical release of asbestos fibers contaminated the building.
- Building contents on Levels 1 and 2 were found to be contaminated. However, contents on Level 3 were found not to be contaminated. All HVAC systems components on Levels 1, 2 and 3 were found to be contaminated.

2.2 Lead-Containing Paint (LCP) and Components

Eight (8) representative painted coatings were sampled for lead content. Previous materials survey data was also reviewed as part of this investigation. The samples were assigned unique identification numbers and transmitted to NVL Laboratories (AIHA IH #101861) in Seattle, Washington, under chain-of-custody protocols for analysis using Flame Atomic Absorption. Current sampling and previous sample results are indicated below. LCP is paint that contains any detectable amount of lead.

The following samples were found to **contain lead above** detectable limits. All similar surfaces should be presumed to contain similar amounts of lead and handled the same.

- Blue painted metal door frame – outside of room O180, 0.28% lead
- Dark brown painted metal door frame – Room O284, 0.0976% lead (previous data)
- Tan metal door frame – Room O276, 0.0057% lead (previous data)
- Tan painted concrete column – column by room O264, 0.0003% lead (previous data)
- Tan painted interior metal interior window frame – south wall of Room O161, 0.0160% lead (previous data)

- Tan painted gypsum wallboard column – south elevation, 0.010% lead (previous data)
- Tan painted wood door – west elevation, 0.020% lead (previous data)

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

- Tan painted gypsum wallboard wall – north entrance by Room O183 and west wall of Room O328
- Tan painted concrete column – hall by Room O168
- Blue painted gypsum wallboard wall – northeast corner of Room O161
- Gray painted concrete column – southwest corner of Room O265
- Tan painted metal door – entrance to Room O284
- White painted gypsum wallboard wall – north wall of Room O285
- Tan painted concrete decking – Room O161 (previous data)
- Blue painted gypsum wallboard wall – south wall of Room O160 (previous data)
- Tan painted gypsum wallboard wall – west wall of Room O161 and east wall of Room O166 (previous data)

Refer to Appendix C for specific sample locations and associated laboratory reports. Refer to Appendix D for specific sample locations from previous survey data.

2.3 Mercury-Containing Components

All fluorescent light tubes are presumed to contain mercury. PBS counted the number of fluorescent tubes in the Olympic South Building for the purposes of mercury vapor recovery prior to renovation activities. PBS observed approximately 1,105 – 4-foot mercury-containing light bulbs and 86 – 2-foot mercury-containing light bulbs throughout the project area. Caution should be exercised during demolition to not break these bulbs.

2.4 PCB-Containing Components

Magnetic fluorescent light ballasts should be presumed to contain PCBs and properly removed, stored, transported, and disposed of in accordance with Washington Administrative Code (WAC) 173-303 Dangerous Waste Regulations and 40 CFR Part 761 Subpart D. Electronic ballasts do not contain suspect PCB-containing oil.

PBS used a ballast checker to inspect representative fluorescent light fixture ballasts throughout the work areas. PBS observed some magnetic ballasts at various locations throughout the building. All magnetic ballasts should be removed and properly disposed.

3 RECOMMENDATIONS

3.1 ACMs

PBS recommends that all exposed and concealed ACMs to be impacted by the work be removed prior to construction activities. All contaminated surface dust should be removed. A qualified Washington State licensed asbestos abatement contractor should be employed to remove all such ACMs according to applicable local, state, and federal regulations.

Asbestos-containing spray-applied fireproofing and joint compound associated with non-asbestos gypsum wallboard (GWB) assemblies were found less than 1%. The presence of asbestos in the spray-applied fireproofing and joint compound requires personnel impacting the material to adhere to regulatory requirements outlined in WAC 296-62-17712(2) and training as outlined in WAC 296-62-07722(5) and WAC 296-62-0728. Refer to Washington Industrial Safety and Health Act (WISHA) Regional Directive 23.30 for additional information.

The possibility exist that suspect ACMs may be present in equipment, wall and ceiling cavities, beneath concrete slabs, and buried in site soils included in the scope of the work. These may include, but are not limited to waterproofing membranes and coatings, internal gaskets, pipe insulation, piping materials, caulking and sealants of HVAC equipment, construction adhesives, and wall mastics. If suspect ACMs is uncovered during construction, contractors should stop work immediately and inform the owner promptly for confirmation testing. All untested materials should be presumed asbestos-containing or tested for asbestos content prior to impact.

Additional suspect-ACMs may be present in concealed spaces. Caution should always be exercised during selective demolition to prevent impact of suspect-ACMs. All suspect ACMs should be presumed asbestos-containing until properly sampled and analyzed.

3.2 LCP and Components

Painted coatings may exist in inaccessible areas of the work area or in secondary coatings. Any previously unidentified painted coatings should be considered lead containing until sampled and proven otherwise. All waste shall be handled in accordance with WAC 173-303. Dust control and housekeeping is crucial in preventing worker and occupant exposures.

Impact of painted surfaces with detectable concentrations of lead requires construction activities to be performed according to Washington State Department of Labor and Industries (L&I) regulations for Lead in Construction (WAC 296-155-176 and 296-62). Workers impacting LCP should be provided the proper personal protective equipment and use proper work methods to limit occupational and environmental exposure to lead until an initial exposure assessment has been conducted.

3.3 Mercury-Containing Components

Fluorescent lamps (tubes and bulbs) are known to contain mercury and mercury vapors. All fluorescent lamps at this site are presumed to be mercury-containing. PBS recommends that all fluorescent lamps be carefully handled and recycled/disposed of in accordance with the contract documents and applicable regulations during renovation/demolition 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.

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 managed, handled, removed, stored, transported, and disposed of in accordance with WAC 173-303 and Dangerous Waste Regulations and 40 CFR Part 761 Subpart D. Electronic ballasts do not contain PCBs and can be recycled or 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:
PBS Engineering and Environmental Inc.

Gregg Middaugh
Senior Project Manager
Industrial Hygiene Group

APPENDIX A

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>
40535.488 -1001	2'x4' Lay-in ceiling tile fissure pinhole pattern	Restroom 165	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -1002	2'x4' Lay-in ceiling tile rough fissure pinhole pattern	Hallway near 164, North door	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -1003	2'x4' Lay-in ceiling tile rough pattern	Hallway near 168	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -1004	Hard mudded fitting	Restroom 165, above ceiling	Layer 1: Off-white woven fibrous material Layer 2: Off-white powdery material with fibrous material	NAD NAD	SAT
40535.488 -1005	Hard Mudded Fitting	Above kitchen ceiling	Layer 1: Off-white woven fibrous material Layer 2: Off-white powdery material with fibrous material	NAD NAD	SAT
40535.488 -1006	Duct insulation	Above kitchen ceiling	Layer 1: Silver foil Layer 2: Off-white paper with mastic and woven fibrous material Layer 3: Yellow fibrous material	NAD NAD NAD	SAT
40535.488 -1007	Joint compound Gypsum wallboard	Above kitchen ceiling	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1008	Joint compound Gypsum wallboard	Hallway to ECE near column	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1009	Pipe debris	From Hallway to ECE column	Layer 1: Off-white woven fibrous material Layer 2: Off-white powdery material with fibrous material	NAD NAD	SAT
40535.488 -1010	Fibrous board debris	From Hallway to ECE column	Layer 1: Brown fibrous material	NAD	SAT

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40535.488 -1011	Debris	Column in 168 South wall	Layer 1: Off-white powdery material with fibrous material Layer 2: Yellow fibrous material	NAD	SAT
40535.488 -1012	Fiberboard debris	166 above ceiling	Layer 1: Brown fibrous material with paint	NAD	SAT
40535.488 -1013	Hard mudded fitting	166A above ceiling	Layer 1: Off-white woven fibrous material Layer 2: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -1014	Cementitious material on metal	169 above ceiling	Layer 1: Gray sandy/brittle material with paint	NAD	SAT
40535.488 -1015	Lay-in ceiling tile debris	171 above ceiling	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -1016	Lay-in ceiling tile fissure pinhole	Hallway near 164 north door	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -1017	Lay-in ceiling tile rough fissure pinhole	Hallway near 163	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -1018	Lay-in ceiling tile rough texture	Hallway near 168	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -1019	Fiberboard debris	166 above ceiling	Layer 1: Brown fibrous material with paint	NAD	SAT
40535.488 -1020	Gypsum wallboard debris	From Hallway to ECE column	Layer 1: White chalky material with paper	NAD	SAT
40535.488 -1021	Black asphaltic material	From Hallway to ECE column	Layer 1: Black asphaltic material with debris	NAD	SAT
40535.488 -1022	Pipe debris	From Hallway to ECE column	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -1023	White vibration cloth	Mechanical Room 173 MZ1	Layer 1: Off-white fibrous material	50% Chrysotile	SAT
40535.488 -1024	Joint compound	Room 163 southeast corner	Layer 1: White powdery material with paint and paper	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	

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40535.488 -1025	Joint compound	Room 166 south stairs	Layer 1: White powdery material with paint and paper	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -1026	Joint compound	Room 172 northwest corner	Layer 1: White powdery material with paint	NAD	SAT
40535.488 -1027	Joint compound	Room 183 northwest corner	Layer 1: White powdery material with paint and paper	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -1028	Joint compound	Room 185 southeast corner	Layer 1: White powdery material with paint and paper	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -1029	Joint compound	Room 161 East column face	Layer 1: White powdery material with paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -1030	Joint compound	Room 181B Southwest corner	Layer 1: White powdery material with paint and paper	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -1031	Cove base 4" brown vinyl	Room 166A West wall	Layer 1: Brown rubbery material	NAD	SAT
	Brown mastic		Layer 2: Brown mastic	NAD	
40535.488 -1032	Cove base 4" tan vinyl	Room 171 Northeast corner	Layer 1: Tan rubbery material	NAD	SAT
	Cream mastic		Layer 2: Cream mastic	NAD	
			Layer 3: Trace white powdery material with paint	NAD	
40535.488 -1033	Cove base 4" tan vinyl	Room 183 North wall	Layer 1: Tan rubbery material	NAD	SAT
	Clear mastic		Layer 2: Cream mastic	NAD	
			Layer 3: Brown woven fibrous material	NAD	
40535.488 -1034	Tan carpet Mastic	Room 166 East doorway	Layer 1: Tan mastic	NAD	SAT
			Layer 2: Trace gray brittle material	NAD	
			Layer 3: White brittle material	NAD	

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40535.488 -1035	Tan carpet Mastic White leveling compound	Room 168 near West entry	Layer 1: Trace clear woven fibrous material Layer 2: Tan mastic Layer 3: Trace white brittle material	NAD NAD NAD	SAT
40535.488 -1036	Green and tan carpet Mastic	Hall outside room 184	Layer 1: Green/tan mastic	NAD	SAT
40535.488 -1037	Tan carpet mastic Concrete	LV1 North hall near center South pillar	Layer 1: Tan mastic Layer 2: Trace gray brittle material	NAD NAD	SAT
40535.488 -1038	Vinyl woven wallpaper	Room 161 South column face	Layer 1: Tan vinyl with paint Layer 2: White woven fibrous material Layer 3: White mastic	NAD NAD NAD	SAT
40535.488 -1039	Gray sheet vinyl flooring Tan mastic Jute backing White leveling compound	Room 168 West entry way	Layer 1: Gray sheet vinyl Layer 2: Tan mastic Layer 3: Tan woven fibrous material Layer 4: Clear mastic Layer 5: Trace gray/white brittle material	NAD NAD NAD NAD NAD	SAT
40535.488 -1040	Fiberglass foil cover	Room 165 straight run above LICT	Layer 1: Silver foil Layer 2: White paper with mastic and woven fibrous material Layer 3: Yellow fibrous material	NAD NAD NAD	SAT
40535.488 -1041	Fiberglass woven wrap	Northwest hall outside RM 168 above LCT	Layer 1: White brittle material with woven fibrous material Layer 2: Silver foil Layer 3: White paper with mastic and woven fibrous material Layer 4: Yellow fibrous material	NAD NAD NAD NAD	SAT
40535.488 -1042	Fiberglass duct foil cover	West hall outside RM 170 above LCT	Layer 1: Silver foil Layer 2: Tan paper with mastic and woven fibrous material Layer 3: Yellow fibrous material	NAD NAD NAD	SAT

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40535.488 -1043	Fiberglass foil cover duct wrap	Room 181 South wall	Layer 1: White brittle material with woven fibrous material Layer 2: Silver foil Layer 3: Tan paper with mastic and woven fibrous material Layer 4: Yellow fibrous material	NAD NAD NAD NAD	SAT
40535.488 -1044	Fiberglass duct wrap	Room 185 East wall large duct	Layer 1: Tan brittle material with woven fibrous material Layer 2: Silver foil Layer 3: Tan paper with mastic and woven fibrous material Layer 4: Yellow fibrous material	NAD NAD NAD NAD	SAT
40535.488 -1045	Vibration Cloth- lower cloth	Mech room 173 lower duct Southwest ducting	Layer 1: White/gray fibrous material	61% Chrysotile	SAT
40535.488 -1046	Soft grey duct sealant	Northwest hall outside RM 168 above drop ceiling	Layer 1: Soft gray soft/elastic material	NAD	SAT
40535.488 -1047	Soft white duct seam sealant	West hall outside RM 184 above drop ceiling	Layer 1: Soft white soft/elastic material	NAD	SAT
40535.488 -1048	Hard white Duct sealant	Room 185 into East wall duct penetration	Layer 1: Hard white brittle material with paint Layer 2: White paper	NAD NAD	SAT
40535.488 -1049	Grey duct seam sealant	Mech room 173 Southwest ducting	Layer 1: Gray soft material	NAD	SAT
40535.488 -1050	Clear subgrade conduit penetration	Mech room 173 West wall	Layer 1: Clear soft/elastic material	NAD	SAT
40535.488 -1051	Soft beige window Sealant	North hall West interior window between frame and floor	Layer 1: Soft beige soft/elastic material	NAD	SAT
40535.488 -1052	Soft grey window Sealant	Room 168 interior between window and frame	Layer 1: Soft gray soft/elastic material	NAD	SAT

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40535.488 -1053	Soft black window Sealant	Room 181 Interior window between window and frame	Layer 1: Soft black soft/elastic material	NAD	SAT
40535.488 -1054	White caulk	Room 164 East wall backsplash	Layer 1: White soft/elastic material	NAD	SAT
40535.488 -1055	Red fire stop	Room 160 Northeast column	Layer 1: Red soft/elastic material	NAD	SAT
40535.488 -1056	Red fire stop	Room 160 Northeast column	Layer 1: Red soft/elastic material Layer 2: Trace white brittle material Layer 3: Trace gray fibrous material	NAD NAD NAD	SAT
40535.488 -1057	1" Tan ceramic floor tile Gray grout	Room 165 Northeast floor	Layer 1: Tan ceramic Layer 2: Gray brittle/sandy material Layer 3: Clear mastic	NAD NAD NAD	SAT
40535.488 -1058	3" White ceramic covebase tile Gray grout	Room 165 East cove base	Layer 1: White ceramic Layer 2: Gray brittle/sandy material Layer 3: Clear mastic	NAD NAD NAD	SAT
40535.488 -1059	Sound dampening panel	Room 181 East end on ceiling	Layer 1: White woven fibrous material	NAD	SAT
40535.488 -1060	Hard mudded fitting	Room 165 T-connection above ceiling	Layer 1: White powdery material with woven fibrous material Layer 2: Gray foamy material	NAD NAD	SAT
40535.488 -1061	Hard mudded fitting	Northwest hall outside RM 168 above ceiling	Layer 1: White powdery material with woven fibrous material and paint Layer 2: Gray foamy material	NAD NAD	SAT
40535.488 -1062	Floor concrete	Room 001 Southeast near column	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -1063	Floor concrete	Room 166A East area	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -1064	Floor concrete	North hall outside RM 180	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -1065	Waffle ceiling concrete	Room 172 between column and ceiling	Layer 1: Gray/tan sandy/brittle material	NAD	SAT

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40535.488 -1066	Waffle ceiling concrete	Room 181 West ceiling	Layer 1: Gray/tan sandy/brittle material	NAD	SAT
40535.488 -1067	Waffle ceiling concrete	Room 185 Southwest ceiling	Layer 1: Gray/tan sandy/brittle material	NAD	SAT
40535.488 -1068	Black sink undercoat	Room 164 East wall	Layer 1: Black soft/loose material	3% Chrysotile	SAT
40535.488 -1069	Vinyl woven wallpaper	Room 161 South column face	Layer 1: Tan vinyl with paint Layer 2: White woven fibrous material Layer 3: White mastic	NAD NAD NAD	SAT
40535.488 -1070	Gray sheet vinyl flooring Tan Mastic Jute backing White leveling compound	Room 168 West entry way	Layer 1: Gray sheet vinyl Layer 2: Tan mastic Layer 3: Tan woven fibrous material Layer 4: Clear mastic Layer 5: Trace gray/white brittle material	NAD NAD NAD NAD NAD	SAT
40535.488 -1071	Door core	Room 181A-2, 5 foot wood door	Layer 1: Brown wood debris	NAD	SAT
40535.488 -1072	Joint compound Gypsum wallboard	Room 161, South central column	Layer 1: White powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1073	Joint compound Gypsum wallboard	Room 163, North wall	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1074	Joint compound Gypsum wallboard	Room 164, Southeast column	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1075	Joint compound Gypsum wallboard	Room 166A, West wall, North column	Layer 1: White powdery material with trace paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1076	Joint compound Gypsum wallboard	Room 168, South central column	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1077	Joint compound Gypsum wallboard	Room 169, West wall	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT

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40535.488 -1078	Joint compound Gypsum wallboard	Room 169, South column	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1079	Joint compound Gypsum wallboard	Room 170, South wall	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1080	Joint compound Gypsum wallboard	Room 170, North column	Layer 1: White powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1081	Joint compound Gypsum wallboard	Room 171, West wall	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1082	Joint compound Gypsum wallboard	Room 172, West wall	Layer 1: Trace white powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1083	Joint compound Gypsum wallboard	Room 172, West column	Layer 1: White powdery material with paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1084	Joint compound Gypsum wallboard	East entrance	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper Layer 3: Gray foamy material	2% Chrysotile Point Count 0.25% NAD NAD	SAT
40535.488 -1085	Joint compound Gypsum wallboard	West entrance	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper Layer 3: Gray foamy material	2% Chrysotile Point Count 0.25% NAD NAD	SAT
40535.488 -1086	Joint compound Gypsum wallboard	Room 160 Southeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper Layer 3: Gray foamy material	2% Chrysotile Point Count 0.5% NAD NAD	SAT
40535.488 -1087	Joint compound Gypsum wallboard	Room 161 East entrance	Layer 1: White powdery material with paint and paper Layer 2: Gray foamy material	NAD NAD	SAT

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40535.488 -1088	Joint compound	Room 161A East	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper Layer 3: Gray foamy material	Point Count 0.5% NAD NAD	
40535.488 -1089	Joint compound	Room 161 Southwest corner	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper Layer 3: Gray foamy material	Point Count 0.5% NAD NAD	
40535.488 -1090	Joint compound	Room 161B West	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper Layer 3: Gray foamy material	Point Count 0.5% NAD NAD	
40535.488 -1091	Joint compound	Room 168 Southeast	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper Layer 3: Gray foamy material	Point Count 0.25% NAD NAD	
40535.488 -1092	Joint compound	Room 173 West entrance	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper Layer 3: Gray foamy material	Point Count 0.25% NAD NAD	
40535.488 -1093	Joint compound	Column by room 180	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper Layer 3: Gray foamy material	Point Count 0.5% NAD NAD	
40535.488 -1094	Joint compound	Column across from room 181	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper Layer 3: Gray foamy material	Point Count 0.5% NAD NAD	

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40535.488 -1095	Joint compound Gypsum wallboard	Room 181 North central	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper Layer 3: Gray foamy material	2% Chrysotile Point Count 0.75% NAD NAD	SAT
40535.488 -1096	Joint compound Gypsum wallboard	Room 181A Northeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper Layer 3: Gray foamy material	2% Chrysotile Point Count 0.75% NAD NAD	SAT
40535.488 -1097	Joint compound Gypsum wallboard	Room 181A-2 Northwest	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper Layer 3: Gray foamy material	2% Chrysotile Point Count 0.5% NAD NAD	SAT
40535.488 -1098	Joint compound Gypsum wallboard	Room 0161, West wall, North end	Layer 1: White powdery material Layer 2: White chalky material with paper	2% Chrysotile Composite <1% NAD	SAT
40535.488 -1099	Joint compound Gypsum wallboard	Room 0161, East wall, South end	Layer 1: White powdery material with trace paint Layer 2: White chalky material with paper	2% Chrysotile Composite <1% NAD	SAT
40535.488 -1100	Joint compound / Gypsum wallboard	Room 0161A, North wall, West end	Layer 1: White chalky material with paint and paper	NAD	SAT
40535.488 -1101	Joint compound Gypsum wallboard	Room 0164, West wall, North end	Layer 1: White powdery material with paint Layer 2: Trace white chalky material with paper	NAD NAD	SAT
40535.488 -1102	Joint compound / Gypsum wallboard	Room 0166, North wall, center	Layer 1: White chalky material with paper	NAD	SAT
40535.488 -1103	Joint compound Gypsum wallboard	Room 0166, West wall, North of door	Layer 1: White powdery material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1104	Joint compound Gypsum wallboard	Room 0166, Northeast column	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT

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40535.488 -1105	Joint compound Gypsum wallboard	Room 0166A, South wall, West end	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1106	Joint compound Gypsum wallboard	Room 0166A, East wall, North of door	Layer 1: White chalky material with paint and paper	NAD	SAT
40535.488 -1107	Joint compound Gypsum wallboard	Room 0169, North wall, West of door	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1108	Joint compound Gypsum wallboard	Room 0169, South wall, West end	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1109	Joint compound Gypsum wallboard	Room 0170, West wall, South end	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1110	Joint compound Gypsum wallboard	Room 0170, North wall, west of column	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1111	Joint compound Gypsum wallboard	Room 0171, North wall, West end	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1112	Joint compound Gypsum wallboard	Room 0171, South wall, East end	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1113	Joint compound Gypsum wallboard	Corridor outside Room 0172, North wall	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1114	Joint compound Gypsum wallboard	Room 0180, East wall, North end	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1115	Joint compound Gypsum wallboard	Room 0181, South wall, West end	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1116	Joint compound Gypsum wallboard	Room 0183, East wall, South end	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -1117	Joint compound Gypsum wallboard	Room 0184, South wall, West end	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT

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40535.488 -1118	Joint compound Gypsum wallboard	Kitchen South wall, South side	Layer 1: White powdery material with paint Layer 2: Yellow woven fibrous material Layer 3: White chalky material with paper	NAD NAD NAD	SAT
40535.488 -1119	Joint compound Gypsum wallboard	161 North wall, West area, East of half wall	Layer 1: Off-white powdery material with paint Layer 2: White chalky material with paper	2% Chrysotile NAD	SAT
40535.488 -1120	Joint compound Gypsum wallboard	South door to 164 East side from hall	Layer 1: Off-white powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT

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40535.488 -2001	Duct lining insulation	N/S hall main return duct near 285	Layer 1: Black fibrous material	NAD	SAT
40535.488 -2002	2' x 2' lay-in-ceiling-tile dust/debris	Room 284 northwest high ceiling	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2003	Fireproofing debris	Level 2 N/S hall south end near 283	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2004	Fireproofing debris	Level 2 N/S hall south end near 283	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2005	Fireproofing debris	Level 2 N/S hall south end near 283	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2006	Fireproofing debris	Level 2 N/S hall south end near 283	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2007	Fireproofing debris	Level 2 N/S hall south end near 283	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2008	Fireproofing debris	Level 2 N/S hall south end near 283	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2009	Fireproofing debris	Level 2 hall outside 284A	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2010	Debris on floor	Room 284 northwest area	Layer 1: Off-white powdery material with fibrous material	NAD	SAT
40535.488 -2011	Joint compound Gypsum wallboard	Room 260 northeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2012	Joint compound	Room 264 northeast corner	Layer 1: White powdery material with paint and paper	NAD	SAT

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	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -2013	Joint compound Gypsum wallboard	Room 270/271 corridor Southeast corner near 269	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2014	Joint compound Gypsum wallboard	Room 280 northeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2015	Joint compound Gypsum wallboard	Room 288 southwest corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2016	2' x 4' Lay-in-ceiling-tile	Level 2 north E/W hall near art gallery	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -2017	2' x 4' Lay-in ceiling tile	Room 267 Men's restroom	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -2018	2' x 4' Lay-in ceiling tile	Level 2 N/S hall near 270	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -2019	2' x 4' Lay-in ceiling tile	Level 2 N/S hall near 279	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -2020	2' x 4' Lay-in ceiling tile	Level 2 south E/W hall near 291	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -2021	Joint compound Gypsum wallboard	Room 266 Northeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2022	Joint compound Gypsum wallboard	Room 292 North wall	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2023	4" Black vinyl cove base Brown mastic	Room 260 Northwest corner	Layer 1: Black/dark brown rubbery material Layer 2: Trace brown mastic	NAD NAD	SAT
40535.488 -2024	4" Tan vinyl cove base Cream and brown mastic	Room 262 Northwest corner	Layer 1: Beige rubbery material Layer 2: Off-white mastic Layer 3: Brown mastic	NAD NAD NAD	SAT
40535.488 -2025	4" Tan vinyl cove base Cream mastic	Room 271 Southwest corner	Layer 1: Beige rubbery material Layer 2: Off-white mastic Layer 3: Trace white powdery material with paint	NAD NAD NAD	SAT

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40535.488 -2026	4" Gray vinyl cove base Creamy mastic	Room 275 Northeast corner	Layer 1: Gray rubbery material Layer 2: Off-white mastic	NAD NAD	SAT
40535.488 -2027	4" Black vinyl cove base Cream mastic	Central hall outside Room 275	Layer 1: Black rubbery material Layer 2: Off-white mastic Layer 3: Trace brown wood debris	NAD NAD NAD	SAT
40535.488 -2028	4" Black vinyl cove base Cream mastic	West hall Northwest corner outside RM 292	Layer 1: Black rubbery material Layer 2: Off-white mastic Layer 3: Trace white powdery material with paint and paper	NAD NAD NAD	SAT
40535.488 -2029	Tan carpet mastic	Room 275 West side near door	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 -2030	Tan carpet mastic	Room 278 West side near door	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 -2031	Tan carpet mastic White Leveling compound	Room 288 at doorway	Layer 1: Tan/dark yellow mastic Layer 2: Off-white brittle material	NAD NAD	SAT
40535.488 -2032	Yellow carpet mastic	West hall outside room 291	Layer 1: Yellow mastic	NAD	SAT
40535.488 -2033	Yellow carpet mastic	North hall West of stair case	Layer 1: Yellow mastic	NAD	SAT
40535.488 -2034	12" Off-whiteish vinyl tile Black mastic	Room 283 Northeast corner	Layer 1: Off-white tile Layer 2: Black mastic Layer 3: Off-white brittle material	NAD NAD NAD	SAT
40535.488 -2035	12" Off-whiteish vinyl tile Black mastic	Room 283 South area	Layer 1: Off-white tile Layer 2: Black mastic Layer 3: Off-white brittle material	NAD NAD NAD	SAT
40535.488 -2036	12" Off-whiteish vinyl tile Black mastic	Room 283 Southeast area	Layer 1: Off-white tile Layer 2: Black mastic	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>
40535.488 -2037	Gray sheet flooring Brown mastic	Room 284 South elevated platform	Layer 1: Gray sheet vinyl Layer 2: Brown mastic Layer 3: Yellow mastic Layer 4: Brown wood debris	NAD NAD NAD NAD	SAT
40535.488 -2038	Gray sheet flooring Brown mastic	Room 284 South elevated platform	Layer 1: Gray sheet vinyl Layer 2: Yellow mastic	NAD NAD	SAT
40535.488 -2039	Black residual mastic	Room 270 entry way	Layer 1: Black mastic	NAD	SAT
40535.488 -2040	Tan tack board mastic	Room 271 North wall	Layer 1: Brown fibrous material Layer 2: Off-white mastic	NAD NAD	SAT
40535.488 -2041	1' Acoustic ceiling tile Brown glue dot	Room 276 Northwest corner	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2042	1' Acoustic ceiling tile Brown glue dot	Room 291 East ceiling	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2043	Soft gray duct sealant	Room 266 North wall vertical duct	Layer 1: Gray soft/elastic material	NAD	SAT
40535.488 -2044	Fiberglass and cover Tan sealant	East hall outside room 263 duct above ceiling	Layer 1: Yellow fibrous material Layer 2: Silver foil Layer 3: Woven off-white fibrous material Layer 4: Tan soft/elastic material	NAD NAD NAD NAD	SAT
40535.488 -2045	Fiberglass duct seam cover Gray sealant	East hall outside room 263 duct above ceiling	Layer 1: Yellow fibrous material Layer 2: Silver foil Layer 3: Off-white fibrous material Layer 4: Gray soft/elastic material with fibrous material	NAD NAD NAD NAD	SAT
40535.488 -2046	Fiberglass straight run with paper	Room 267 East area above ceiling	Layer 1: Yellow fibrous material Layer 2: Silver foil Layer 3: Off-white paper with mastic and woven fibrous material	NAD 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>
40535.488 -2047	Fiberglass	Room 267 center of room above ceiling	Layer 1: Yellow fibrous material	NAD	SAT
	Gray duct seam sealant		Layer 2: Silver foil	NAD	
			Layer 3: Gray soft/elastic material with woven fibrous material	NAD	
40535.488 -2048	Fiberglass	Main hall outside room 279 above ceiling	Layer 1: Yellow fibrous material	NAD	SAT
			Layer 2: Off-white fibrous material	NAD	
			Layer 3: Silver foil	NAD	
	Gray duct sealant		Layer 4: Gray soft/elastic material with woven fibrous material	NAD	
40535.488 -2049	Red fiberglass black coating supply duct lining	Room 283 Southeast elevation	Layer 1: Red/pink fibrous material	NAD	SAT
			Layer 2: Black coating	NAD	
40535.488 -2050	White sealant on water pipe straight run	LV2 West skybridge East end	Layer 1: Silver foil	NAD	SAT
			Layer 2: Off-white paper with mastic and woven fibrous material	NAD	
40535.488 -2051	Acoustic paneling	Room 283 West wall	Layer 1: Off-white woven fibrous material	NAD	SAT
			Layer 2: Yellow fibrous material	NAD	
40535.488 -2052	Acoustic paneling	Room 283 West wall	Layer 1: Off-white woven fibrous material	NAD	SAT
			Layer 2: Yellow fibrous material	NAD	
40535.488 -2053	Gray duct tape	Room 267 East wall above ceiling	Layer 1: Silver soft/elastic material with woven fibrous material	NAD	SAT
			Layer 2: Gray mastic	NAD	
40535.488 -2054	White conduit wall penetration sealant	Room 292 Northeast corner above ceiling	Layer 1: White brittle material	NAD	SAT
40535.488 -2055	Fiberglass/ red fire stop	Room 262 East closet on duct above ceiling	Layer 1: Yellow fibrous material	NAD	SAT
			Layer 2: Off-white woven fibrous material	NAD	
			Layer 3: Silver foil	NAD	
			Layer 4: Red soft/elastic material with fibrous material	NAD	

**Pierce College Olympic South Abatement and Repairs
Washington Department of Enterprise Services**

Floor 2

**PBS Engineering + Environmental
PBS Project #40535.488**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
40535.488 -2056	Fiberglass/ red fire stop	Hall outside room 270 on duct above ceiling	Layer 1: Yellow fibrous material Layer 2: Red soft/elastic material with fibrous material	NAD NAD	SAT
40535.488 -2057	Red fire stop	Room 292 near door above ceiling	Layer 1: Red soft/elastic material	NAD	SAT
40535.488 -2058	Red fire stop	Room 292 near door above ceiling	Layer 1: Red soft/elastic material	NAD	SAT
40535.488 -2059	Soft gray interior window sealant	Room 271 between frame and sill	Layer 1: Gray soft/elastic material	NAD	SAT
40535.488 -2060	Soft black interior window sealant	Main hall room 274 between glass and frame	Layer 1: Black soft material with paint	NAD	SAT
40535.488 -2061	Soft black interior window sealant	West hall room 286 between glass and frame	Layer 1: Black soft material with paint	NAD	SAT
40535.488 -2062	Soft gray and soft beige interior window sealant	North hall near stairs between frame and floor	Layer 1: Gray/beige soft/elastic material	NAD	SAT
40535.488 -2063	White sealant	Room 292 between wall and concrete ceiling	Layer 1: Off-white soft material	NAD	SAT
40535.488 -2064	1" Off-white ceramic floor tile Gray grout	Room 268 Northeast area	Layer 1: Off-white ceramic Layer 2: Gray sandy/brittle material Layer 3: Brown fibrous material	NAD NAD NAD	SAT
40535.488 -2065	3" Off-white ceramic cove base tile Gray grout	Room 268 Northeast area	Layer 1: Off-white/yellow ceramic Layer 2: Trace gray sandy/brittle material	NAD NAD	SAT
40535.488 -2066	Column caulk	Room 283 Northeast corner	Layer 1: Gray soft material with paint	3% Chrysotile	SAT
40535.488 -2067	Column caulk	Room 283 Northeast corner	Layer 1: Gray soft material with paint	3% Chrysotile	SAT
40535.488 -2068	White sink undercoating	Room 285A South wall	Layer 1: Pink soft/loose material	NAD	SAT
40535.488 -2069	Lay-in ceiling tile 2'x4' fissure pinhole pattern	Room 262 East closet	Layer 1: Gray fibrous material with paint	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>
40535.488 -2070	Lay-in ceiling tile 2'x4' white face fiberglass	Room 292 center of room	Layer 1: Off-white soft/elastic material Layer 2: Yellow fibrous material	NAD NAD	SAT
40535.488 -2071	Floor concrete	Room 263 Southwest corner	Layer 1: Gray sandy/brittle material Layer 2: Trace black mastic	NAD NAD	SAT
40535.488 -2072	Floor concrete	Room 266 Northwest at floor penetration	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2073	Floor concrete	Room 283 Northeast ramp area	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2074	Ceiling concrete	Room 262 East closet	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2075	Ceiling concrete	Room 271 East wall	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2076	Ceiling concrete	Main hall outside room 279	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2077	12" Acoustical ceiling tile Brown mastic	Room 272 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2078	12" Acoustical ceiling tile Brown mastic	Room 272 Northeast area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2079	12" Acoustical ceiling tile Brown mastic	Room 273 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2080	12" Acoustical ceiling tile Brown mastic	Room 273 North area	Layer 1: Gray fibrous material Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2081	12" Acoustical ceiling tile Brown mastic	Room 274 South area	Layer 1: Gray fibrous material with trace paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2082	12" Acoustical ceiling tile Brown mastic	Room 274 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2083	12" Acoustical ceiling tile Brown mastic	Room 276 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	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>
40535.488 -2084	12" Acoustical ceiling tile Brown mastic (lighter)	Room 276 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2085	12" Acoustical ceiling tile Brown mastic	Room 277 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2086	12" Acoustical ceiling tile Brown mastic	Room 277 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2087	12" Acoustical ceiling tile, light fissures Brown mastic	Room 278 East area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2088	12" Acoustical ceiling tile patch of heavy fissure Brown mastic (lighter)	Room 278 West area	Layer 1: Gray fibrous material with trace paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2089	12" Acoustical ceiling tile Brown mastic	Room 279 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2090	12" Acoustical ceiling tile Brown mastic	Room 279 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2091	12" Acoustical ceiling tile Brown mastic	Room 280 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2092	12" Acoustical ceiling tile Brown mastic	Room 280 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2093	12" Acoustical ceiling tile, light fissures Brown mastic	Room 281 East area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2094	12" Acoustical ceiling tile patch of heavy fissure Brown mastic	Room 281 West area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2095	12" Acoustical ceiling tile Brown mastic	Room 282 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	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>
40535.488 -2096	12" Acoustical ceiling tile Brown mastic	Room 282 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2097	12" Acoustical ceiling tile Brown mastic	Room 286 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2098	12" Acoustical ceiling tile Brown mastic	Room 286 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2099	12" Acoustical ceiling tile Brown mastic	Room 290 East area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2100	12" Acoustical ceiling tile Brown mastic	Room 287 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2101	12" Acoustical ceiling tile Brown mastic	Room 287 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2102	12" Acoustical ceiling tile Brown mastic	Room 288 North area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2103	12" Acoustical ceiling tile Brown mastic	Room 288 South area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2104	12" Acoustical ceiling tile Brown mastic	Room 289 South area	Layer 1: Gray fibrous material with paint Layer 2: Off-white/yellow mastic Layer 3: Off-white fibrous material	NAD NAD NAD	SAT
40535.488 -2105	12" Acoustical ceiling tile Brown mastic	Room 289 North area	Layer 1: Gray fibrous material with paint Layer 2: Off-white/yellow mastic Layer 3: Off-white fibrous material	NAD NAD NAD	SAT
40535.488 -2106	12" Acoustical ceiling tile Brown mastic	Room 290 West area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2107	12" Acoustical ceiling tile Brown mastic	Room 291 East area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT

**Pierce College Olympic South Abatement and Repairs
Washington Department of Enterprise Services**

Floor 2

**PBS Engineering + Environmental
PBS Project #40535.488**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
40535.488 -2108	12" Acoustical ceiling tile Brown mastic	Room 291 West area	Layer 1: Gray fibrous material with paint Layer 2: Brown mastic	NAD NAD	SAT
40535.488 -2109	Concrete	Room 284 East area	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2110	Concrete	Room 284 Northwest area	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2111	Concrete masonry unit with paint	Hall near room 283 above drop ceiling	Layer 1: Gray hard sandy/brittle material with paint	NAD	SAT
40535.488 -2112	Concrete masonry unit with concrete fill	Hall near room 283 above drop ceiling	Layer 1: Gray hard sandy/brittle material	NAD	SAT
40535.488 -2113	Concrete fill	Hall near room 283 above drop ceiling	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -2114	Joint compound Gypsum wallboard	Column south side of skybridge to Olympic North, north face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2115	Joint compound Gypsum wallboard	Column across Rm 266, north face	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2116	Joint compound Gypsum wallboard	Rm 265 northeast column, south face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2117	Joint compound Gypsum wallboard	Column north of Rm 264 door, east face in hall	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2118	Joint compound Gypsum wallboard	Rm 264 southeast column, north face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2119	Joint compound Gypsum wallboard	Column south of Rm 264 door, west face	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2120	Joint compound Gypsum wallboard	Column at Rm 270 entry, south face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2121	Joint compound	Rm 270 northwest column,	Layer 1: White powdery material with paint and paper	NAD	SAT

July 9, 2021

NAD - No Asbestos Detected

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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>
	Gypsum wallboard	east face	Layer 2: White chalky material with paper	NAD	
40535.488 -2122	Joint compound Gypsum wallboard	Rm 275 southeast column, north face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2123	Joint compound Gypsum wallboard	Column south of Rm 275 door, north face	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2124	Joint compound Gypsum wallboard	Column near Rm 289, south face	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2125	Gypsum wallboard, joint compound	Rm 278 south column, west face	Layer 1: White powdery material with paint and paper	NAD	SAT
40535.488 -2126	Joint compound Gypsum wallboard	Column near Rm 280, north face	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2127	Joint compound Gypsum wallboard	Column in Rm 285A, north face	Layer 1: White powdery material with paint Layer 2: Pink chalky material with paper	NAD NAD	SAT
40535.488 -2128	Joint compound Gypsum wallboard	Rm 284A west column, east face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2129	Joint compound Gypsum wallboard	Rm 284 west column, east face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2130	Joint compound Gypsum wallboard	Rm 284 south column, north face	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2131	Joint compound Gypsum wallboard	Rm 283 south column, north face	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2132	Joint compound Gypsum wallboard	Rm 283 east column, west face	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2133	Joint compound Gypsum wallboard	Rm 283, north wall, center area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2134	Joint compound	Rm 283, south wall, west area	Layer 1: White powdery material with paint and paper	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>
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -2135	Joint compound Gypsum wallboard	Rm 284, north wall, east of main door	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2136	Joint compound Gypsum wallboard	Rm 284, wall south of exit stairs	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2137	Joint compound Gypsum wallboard	Rm 284A, south wall, west area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2138	Joint compound Gypsum wallboard	Rm 284A, east wall, north of door	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2139	Joint compound Gypsum wallboard	Rm 282, west wall, north of door	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2140	Joint compound Gypsum wallboard	Rm281, north wall, east area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2141	Joint compound Gypsum wallboard	Rm 285, south wall, west area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2142	Joint compound Gypsum wallboard	Rm 285A, west wall, north area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2143	Joint compound Gypsum wallboard	Rm 279, north wall, west area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2144	Joint compound Gypsum wallboard	Rm 278, south wall, west area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2145	Joint compound Gypsum wallboard	Rm 278, north wall, east area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2146	Joint compound Gypsum wallboard	Rm 277, south wall, west area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	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>
40535.488 -2147	Joint compound Gypsum wallboard	Rm 276, east wall, south area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2148	Joint compound Gypsum wallboard	Rm 288, west wall, north area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2149	Joint compound Gypsum wallboard	Rm 290, south wall, west area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2150	Joint compound Gypsum wallboard	Rm 290, north wall, west of window	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2151	Joint compound Gypsum wallboard	Rm 291, west wall, north area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2152	Joint compound Gypsum wallboard	Rm 291, south wall, east area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2153	Joint compound Gypsum wallboard	Rm 292, south wall, east area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2154	Joint compound Gypsum wallboard	Rm 289, west wall, north area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2155	Gypsum wallboard, joint compound	Rm 287, south wall, east of door	Layer 1: White chalky material with paint and paper	NAD	SAT
40535.488 -2156	Joint compound Gypsum wallboard	Rm 286, north wall, west area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2157	Gypsum wallboard, joint compound	Rm 275, west wall, north of door	Layer 1: White chalky material with paint and paper	NAD	SAT
40535.488 -2158	Joint compound Gypsum wallboard	Rm 275, north wall, east area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2159	Joint compound Gypsum wallboard	Rm 274, south wall, west area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2160	Joint compound	Rm 273, east wall, north area	Layer 1: White powdery material with paint	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>
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -2161	Joint compound Gypsum wallboard	Rm 272, west wall, north area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2162	Joint compound Gypsum wallboard	Corridor to 270/271, north wall, east area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2163	Joint compound Gypsum wallboard	Rm 269, west wall, south area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2164	Joint compound Gypsum wallboard	Rm 270, south wall, west area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2165	Joint compound Gypsum wallboard	Rm 270, east wall, north area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2166	Joint compound Gypsum wallboard	Rm 271, north wall, east area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2167	Joint compound Gypsum wallboard	Rm 271, east wall, center area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2168	Joint compound Gypsum wallboard	Rm 268, south wall, west area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2169	Joint compound Gypsum wallboard	Rm 268, north wall, east area	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2170	Joint compound Gypsum wallboard	Rm 267, west wall, north area	Layer 1: White powdery material with paint and paper Layer 2: Brown chalky material with paper	NAD NAD	SAT
40535.488 -2171	Joint compound Gypsum wallboard	Rm 267, east wall, south area	Layer 1: White powdery material with paint Layer 2: Brown chalky material with paper	NAD NAD	SAT
40535.488 -2172	Gypsum wallboard, joint compound	Rm 264, west wall, south of door	Layer 1: White chalky material with paint and paper	NAD	SAT
40535.488 -2173	Joint compound	Rm 263, west wall, north area	Layer 1: White powdery material with paint and paper	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>
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40535.488 -2174	Joint compound Gypsum wallboard	Rm 263, south wall, east area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2175	Joint compound Gypsum wallboard	Rm 262, east wall, south area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2176	Joint compound Gypsum wallboard	Rm 262 closet, north wall	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2177	Joint compound Gypsum wallboard	Rm 261, west wall, north of door	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2178	Joint compound Gypsum wallboard	Rm 261 closet, north wall	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2179	Gypsum wallboard, joint compound	Rm 260, west wall, north of door	Layer 1: White chalky material with paint and paper	NAD	SAT
40535.488 -2180	Joint compound Gypsum wallboard	Rm 265, west wall, south area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -2181	Joint compound Gypsum wallboard	Rm 266, south wall, east of door	Layer 1: White powdery material with paint Layer 2: Brown chalky material with paper	NAD NAD	SAT

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>
40535.488 -3001	Wall texture	Level 3 Mechanical Room	Layer 1: White powdery material with paint and paper	NAD	SAT
40535.488 -3002	Wall texture, joint compound, tape	Level 3 Mechanical Room	Layer 1: White powdery material with paint and paper	NAD	SAT
40535.488 -3003	Joint compound, tape	Level 3 Mechanical Room	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -3004	Duct insulation	Level 3 Mechanical Room MZ-2	Layer 1: Yellow fibrous material Layer 2: Trace black asphaltic material	NAD NAD	SAT
40535.488 -3005	Duct insulation	Level 3 Mechanical Room MZ-3	Layer 1: Yellow fibrous material Layer 2: Yellow mastic	NAD NAD	SAT
40535.488 -3006	Woven insulation	Level 3 Mechanical Room	Layer 1: Off-white woven fibrous material and paint	NAD	SAT
40535.488 -3007	Fireproofing	Level 3 Mechanical Room	Layer 1: Tan powdery material with fibrous material	NAD	SAT
40535.488 -3008	Fireproofing	Level 3 Mechanical Room	Layer 1: Tan powdery material with fibrous material	NAD	SAT
40535.488 -3009	Fireproofing	Level 3 Mechanical Room	Layer 1: Tan powdery material with fibrous material	NAD	SAT
40535.488 -3010	Joint compound Gypsum wallboard	Room 321 West wall, South area	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -3011	Joint compound Gypsum wallboard	Room 323A Southeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -3012	Joint compound Gypsum wallboard	Room 326A, North wall	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -3013	Joint compound Gypsum wallboard	Room 327A, Southeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -3014	Joint compound Gypsum wallboard	Room 337, Northeast corner	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT

**Pierce College Olympic South Abatement and Repairs
Washington Department of Enterprise Services**

Floor 3

**PBS Engineering + Environmental
PBS Project #40535.488**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
40535.488 -3015	Wall texture orange peel	Room 322 Southwest area	Layer 1: Trace white powdery material with paint and paper Layer 2: White chalky material with paper	NAD NAD	SAT
40535.488 -3016	Wall texture orange peel	Room 326A, North wall	Layer 1: Trace white chalky material with paint and paper	NAD	SAT
40535.488 -3017	Wall texture orange peel	Room 327A, East wall	Layer 1: Trace white powdery material with paint and paper	NAD	SAT
40535.488 -3018	Yellow carpet mastic	LV 3 Student lounge Northeast area	Layer 1: Trace gray fibrous material Layer 2: Yellow mastic	NAD NAD	SAT
40535.488 -3019	Yellow carpet mastic	Room 337, East area	Layer 1: Trace gray/green fibrous material Layer 2: Yellow mastic	NAD NAD	SAT
40535.488 -3020	Tan carpet mastic	Room 323, Southwest area	Layer 1: Tan/dark yellow mastic	NAD	SAT
40535.488 -3021	4" Tan vinyl cove base Cream mastic	LV 3 Student lounge Northeast area	Layer 1: Tan/beige rubbery material Layer 2: Off-white mastic Layer 3: White powdery material with paint	NAD NAD NAD	SAT
40535.488 -3022	4" Tan vinyl cove base Cream mastic	Room 326A, North wall	Layer 1: Tan/beige rubbery material Layer 2: Off-white mastic Layer 3: Trace white powdery material with paint	NAD NAD NAD	SAT
40535.488 -3023	4" Tan vinyl cove base Cream mastic	Hall near room 335	Layer 1: Tan/beige rubbery material Layer 2: Off-white mastic Layer 3: Trace white chalky material with paint and paper	NAD NAD NAD	SAT
40535.488 -3024	6" Beige ceramic floor tile Gray grout	Room 338A women's restroom	Layer 1: White/beige ceramic Layer 2: White sandy/brittle material Layer 3: Dark gray sandy/brittle material	NAD NAD NAD	SAT
40535.488 -3025	4" White ceramic wall tile	Room 338B men's restroom	Layer 1: Off-white ceramic	NAD	SAT

**Pierce College Olympic South Abatement and Repairs
Washington Department of Enterprise Services**

Floor 3

**PBS Engineering + Environmental
PBS Project #40535.488**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
40535.488 -3026	2'x2' Lay-in ceiling tile rough white	LV 3 Student lounge center area	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -3027	2'x2' Lay-in ceiling tile rough white	Hall near room 320	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -3028	2'x2' Lay-in ceiling tile rough white	Hall near room 331	Layer 1: Gray fibrous material with paint	NAD	SAT
40535.488 -3029	Pipe insulation and cover	Room 320, East wall	Layer 1: Silver foil Layer 2: Off-white paper with mastic and woven fibrous material Layer 3: Yellow fibrous material	NAD NAD NAD	SAT
40535.488 -3030	Pipe insulation and cover	Room 327, Northwest corner below floor	Layer 1: Silver foil Layer 2: Off-white paper with mastic and woven fibrous material Layer 3: Yellow fibrous material	NAD NAD NAD	SAT
40535.488 -3031	Interior duct lining	Hall near 335 return duct, above ceiling	Layer 1: Gray fibrous material	NAD	SAT
40535.488 -3032	Black vibration cloth	Room 329, East area supply fan below floor	Layer 1: Black soft/elastic material with fibrous material	NAD	SAT
40535.488 -3033	Black vibration cloth	LV 3 student lounge West area above ceiling	Layer 1: Black soft/elastic material with fibrous material	NAD	SAT
40535.488 -3034	Soft gray duct sealant	Hall near room 327 above ceiling	Layer 1: Gray soft/elastic material	NAD	SAT
40535.488 -3035	Soft gray duct sealant	Room 327, Northwest area below floor	Layer 1: Gray soft/elastic material	NAD	SAT
40535.488 -3036	Soft gray duct sealant	Room 329, East area below floor	Layer 1: Gray soft/elastic material	NAD	SAT
40535.488 -3037	Gray duct tape	Room 329, East area below floor	Layer 1: Silver soft/elastic material with woven fibrous material Layer 2: Gray mastic Layer 3: Black plastic	NAD NAD NAD	SAT
40535.488 -3038	Gray duct tape	Room 329, East area below floor	Layer 1: Silver soft/elastic material with woven fibrous	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>
			material Layer 2: Gray mastic Layer 3: Black plastic	NAD NAD	
40535.488 -3039	Soft gray duct sealant	Room 338A above hard lid	Layer 1: Gray soft/elastic material	NAD	SAT
40535.488 -3040	Soft black window sealant	Room 325 West wall window to frame	Layer 1: Black soft/elastic material	NAD	SAT
40535.488 -3041	Soft black window sealant	LV 3 North window near East stairs window to frame	Layer 1: Black soft/elastic material with paint	NAD	SAT
40535.488 -3042	White vapor barrier	Room 323 Southeast area above ceiling	Layer 1: White plastic Layer 2: Tan paper with mastic and woven fibrous material	NAD NAD	SAT
40535.488 -3043	Silver vapor barrier	Hall near 335 above ceiling at roof penetration	Layer 1: Silver foil Layer 2: Tan paper with mastic and woven fibrous material	NAD NAD	SAT
40535.488 -3044	Black asphaltic material	Room 329 East exterior wall below floor	Layer 1: Black asphaltic material	NAD	SAT
40535.488 -3045	Concrete	Room 321 floor	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -3046	Lightweight concrete	Room 327 Northwest hatch raised floor	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 -3047	Lightweight concrete	Room 329, East hatch raised floor	Layer 1: Gray sandy/brittle material	NAD	SAT

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>
40535.488 -4001	Sandy soil	Northwest elevation near shrubs approximately 20 ft from building from double doors	Layer 1: Soil	NAD	SAT
40535.488 -4002	Soil	West elevation approximately 5 feet from building outside Room 172 window	Layer 1: Soil	NAD	SAT
40535.488 -4003	Sandy soil	West elevation pile of dirt approximately 20 ft from building	Layer 1: Soil	NAD	SAT
40535.488 -4004	Soil	Southwest elevation approximately 8 ft from building in landscape	Layer 1: Soil	NAD	SAT
40535.488 -4005	Sandy soil	South elevation approximately 35 ft from building under playground rubber chunks	Layer 1: Soil	NAD	SAT
40535.488 -4006	Sandy soil	Southeast elevation approximately 25 ft from building near column base	Layer 1: Soil	NAD	SAT
40535.488 -4007	Sandy soil	East elevation approximately 25 ft from ECE drive thru double doors	Layer 1: Soil	NAD	SAT
40535.488 -4008	Soil	East elevation approximately 3 ft from building ECE drive thru soil under rocks south of Room 168 exterior door	Layer 1: Soil	NAD	SAT
40535.488 -4009	Soil	East elevation north area approximately 2 ft from building south of skybridge to Cascade	Layer 1: Soil	NAD	SAT
40535.488 -4010	Soil	North elevation at building base in landscape dirt	Layer 1: Soil	NAD	SAT
40535.488 -4011	Soil	North elevation approximately 50 ft from building under tree	Layer 1: Soil	NAD	SAT
40535.488 -4012	Sand	West elevation approximately 58 ft from building under orange and red play equipment	Layer 1: Soil	NAD	SAT
40535.488 -4013	Soil	Cascade north west elevation base of building 45 feet from southeast corner	Layer 1: Soil	NAD	SAT

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory, 4500 9th Ave, NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Mr. Gregg Middaugh, Ms. Claire Tsai

Client: PBS Engineering and Environmental, Seattle

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

Tel: 206.233.9639

Date Analyzed: 3/9/2021

Client Job#: 40535.438

Project Location: Pierce College Early Childhood
Education

Laboratory batch#: 202109546

Samples Received: 4

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.

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
President

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave, NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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 by Method EPA/600/R-93/116

Attn.: Mr. Gregg Middaugh, Ms. Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.438
Batch#: 202109546
Date Received: 3/8/2021
Samples Rec'd: 4
Date Analyzed: 3/9/2021
Samples Analyzed: 4
Rev. Code: A654H-1
Project Loc.: Pierce College Early Childhood Education

C. Ye

S. Zhang

Analyzed by: Carolyn Ye

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-1001	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	65	Cellulose
2	40535.488-1002	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	62	Cellulose
3	40535.488-1003	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	68	Cellulose
4	40535.488-1004	1	Off-white woven fibrous material		None detected	Filler	89	Synthetic fibers
		2	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	14	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave, NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Mr. Gregg Middaugh, Ms. Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA
98102
Tel: 206.233.9639

Date Analyzed: 3/18/2021
Client Job#: 40535.438
Project Location: Pierce College Early Childhood
Education
Laboratory batch#: 202109642
Samples Received: 18

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.

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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
President

202109642-MM



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Early Childhood Education

Project #: 40535.438

Analysis requested: PLM

Date: 3/16/2021

Relinqu'd by/Signature: Claire Tsai

Date/Time: 3/16/2021

Received by/Signature: Carolya Lee C. Lee

Date/Time: 3/17/21 9:26

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- | | | |
|--|---|--|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input type="checkbox"/> Ferman Fletcher |
| <input checked="" type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Mark Hiley | <input checked="" type="checkbox"/> Claire Tsai | <input type="checkbox"/> Michelle Dodson |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Holly Tuttle | <input type="checkbox"/> _____ |

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 | | |

SAMPLE DATA		FORM	
Sample #	Material	Location	Lab
40535.488-1005	Hard Mudded Fitting	Above kitchen ceiling	SAT
40535.488-1006	Duct insulation	Above kitchen ceiling	
40535.488-1007	Gypsum wallboard/joint compound***	Above kitchen ceiling	
40535.488-1008	Gypsum wallboard/joint compound***	Hallway to ECE near column	
40535.488-1009	Pipe debris	From Hallway to ECE column	
40535.488-1010	Fibrous board debris	From Hallway to ECE column	
40535.488-1011	Debris	Column in 168 South wall	
40535.488-1012	Fiberboard debris	166 above ceiling	
40535.488-1013	Hard mudded fitting	166A above ceiling	
40535.488-1014	Cementitious material on metal	169 above ceiling	
40535.488-1015	Lay-in-ceiling-tile debris	171 above ceiling	
40535.488-1016	Lay-in-ceiling-tile fissure pinhole	Hallway near 164 north door	
40535.488-1017	Lay-in-ceiling-tile rough fissure pinhole	Hallway near 163	
40535.488-1018	Lay-in-ceiling-tile rough texture	Hallway near 168	
40535.488-1019	Fiberboard debris	166 above ceiling	
40535.488-1020	Gypsum wallboard debris	From Hallway to ECE column	
40535.488-1021	Black asphaltic material	From Hallway to ECE column	
40535.488-1022	Pipe debris	From Hallway to ECE column	

***Composite if positive

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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ANALYTICAL LABORATORY REPORT PLM by Method EPA/600/R-93/116

Attn.: Mr. Gregg Middaugh, Ms. Claire Tsai
 Client: PBS Engineering and Environmental, Seattle
 Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.438
 Batch#: 202109642
 Date Received: 3/17/2021
 Samples Rec'd: 18
 Date Analyzed: 3/18/2021
 Samples Analyzed: 18
 Rev. Code: AH43J-1
 Project Loc.: Pierce College Early Childhood Education

Analyzed by:  Carolyn Yeo
 Reviewed by:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-1005	1	Off-white woven fibrous material		None detected	Filler	81	Synthetic fibers
		2	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	15	Cellulose
2	40535.488-1006	1	Silver foil		None detected	Foil/binder		None detected
		2	Off-white paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	68	Cellulose, Glass fibers
		3	Yellow fibrous material		None detected	Filler	90	Glass fibers
3	40535.488-1007	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
4	40535.488-1008	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
5	40535.488-1009	1	Off-white woven fibrous material		None detected	Filler	86	Synthetic fibers
		2	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	19	Cellulose
6	40535.488-1010	1	Brown fibrous material		None detected	Filler	89	Cellulose
7	40535.488-1011	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	17	Cellulose
		2	Yellow fibrous material		None detected	Filler	86	Glass fibers
8	40535.488-1012	1	Brown fibrous material with paint		None detected	Filler, Paint	91	Cellulose
9	40535.488-1013	1	Off-white woven fibrous material		None detected	Filler	88	Synthetic fibers
		2	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	20	Cellulose
10	40535.488-1014	1	Gray sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	3	Cellulose
11	40535.488-1015	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	68	Cellulose
12	40535.488-1016	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	67	Cellulose
13	40535.488-1017	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	62	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.533.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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ANALYTICAL LABORATORY REPORT PLM by Method EPA/600/R-93/116

Attn.: Mr. Gregg Middaugh, Ms. Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.438
Batch#: 202109642
Date Received: 3/17/2021
Samples Rec'd: 18
Date Analyzed: 3/18/2021
Samples Analyzed: 18
Rev. Code: AH43J-1
Project Loc.: Pierce College Early Childhood Education


 Analyzed by: Carolyn Yeo


 Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
14	40535.488-1018	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose
15	40535.488-1019	1	Brown fibrous material with paint		None detected	Filler, Paint	86	Cellulose
16	40535.488-1020	1	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
17	40535.488-1021	1	Black asphaltic material with debris		None detected	Asphalt/binder, Debris	4	Cellulose
18	40535.488-1022	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	20	Cellulose, Glass fibers

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestositest.com, admin@seattleasbestositest.com

Project Manager:	Mr. Gregg Middaugh, Ms. Claire Tsai, Ms. Michelle Dodson	Date Analyzed:	4/1/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.438
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Early Childhood Education
Tel:	206.233.9639	Laboratory batch#:	202108783
Date Report Issued:	4/1/2021	Samples Received:	11

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.

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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



202109783-MM

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Early Childhood Education

Project #: 40535.438

Analysis requested: PLM

Date: 3/30/2021

Relinquished by/Signature:

Date/Time:

Received by/Signature: *Carolya Yeo*

Date/Time: *3/31/21 10:15*

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- Brian Stanford
- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Prudy Stoudt-McRae
- Janet Murphy
- Kaitlin Soukup
- Claire Tsai
- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Ryan Hunter
- Michelle Dodson

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours
- 24 Hours
- 48 Hours
- 3-5 Days
- Other

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-1023	White vibration cloth	Mechanical Room 173 MZ1	SAT
40535.488-2001	Duct lining insulation	N/S hall main return duct near 285	
40535.488-2002	2' x 2' lay-in-ceiling-tile dust/debris	Room 284 northwest high ceiling	
40535.488-2003	Fireproofing debris	Level 2 N/S hall south end near 283	
40535.488-2004	Fireproofing debris	Level 2 N/S hall south end near 283	
40535.488-2005	Fireproofing debris	Level 2 N/S hall south end near 283	
40535.488-2006	Fireproofing debris	Level 2 N/S hall south end near 283	
40535.488-2007	Fireproofing debris	Level 2 N/S hall south end near 283	
40535.488-2008	Fireproofing debris	Level 2 N/S hall south end near 283	
40535.488-2009	Fireproofing debris	Level 2 hall outside 284A	
40535.488-2010	Debris on floor	Room 284 northwest area	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Mr. Gregg Middaugh,
Attn: Ms. Claire Tsai, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.438

Batch#: 202109783

Date Received: 3/31/2021

Samples Rec'd: 11

Date Analyzed: 4/1/2021

Samples Analyzed: 11

Rev. Code: JF32Z-1

Project Loc.: Pierce College Early Childhood
Education

Analyzed by:  Carolyn Yeo

Approved Signatory:  Steven (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-1023	1	Off-white fibrous material	50	Chrysotile	Filler	34	Synthetic fibers
2	40535.488-2001	1	Black fibrous material		None detected	Filler	89	Glass fibers
3	40535.488-2002	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	15	Cellulose
4	40535.488-2003	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	21	Cellulose
5	40535.488-2004	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	25	Cellulose
6	40535.488-2005	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	18	Cellulose
7	40535.488-2006	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	20	Cellulose
8	40535.488-2007	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	16	Cellulose
9	40535.488-2008	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	23	Cellulose
10	40535.488-2009	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	21	Cellulose
11	40535.488-20010	1	Off-white powdery material with fibrous material		None detected	Filler, Fine particles	19	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestos.com, admin@seattleasbestos.com

Project Manager:	Mr. Gregg Middaugh, Ms. Claire Tsai, Ms. Michelle Dotson	Date Analyzed:	4/1/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535,438
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Early Learning Education
Tel:	206.233.9639	Laboratory batch#:	202109795
Date Report Issued:	4/1/2021	Samples Received:	15

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

202109795-MM



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Early Childhood Education

Project #: 40535.438

Analysis requested: PLM

Date: 3/31/2021

Relinquished by/Signature:

Date/Time:

Received by/Signature: *Carolina Yea*

Date/Time: *4/1/21 9:41*

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- | | | |
|--|---|---|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input type="checkbox"/> Ferman Fletcher |
| <input checked="" type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Mark Hiley | <input checked="" type="checkbox"/> Claire Tsai | <input checked="" type="checkbox"/> Michelle Dodson |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Holly Tuttle | <input type="checkbox"/> _____ |

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 | | |

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-1024	Gypsum wallboard/ joint compound***	Room 163 southeast corner	SAT
40535.488-1025	Gypsum wallboard/ joint compound***	Room 166 south stairs	
40535.488-1026	Gypsum wallboard/ joint compound***	Room 172 northwest corner	
40535.488-1027	Gypsum wallboard/ joint compound***	Room 183 north west corner	
40535.488-1028	Gypsum wallboard/ joint compound***	Room 185 southeast corner	
40535.488-2011	Gypsum wallboard/ joint compound***	Room 260 northeast corner	
40535.488-2012	Gypsum wallboard/ joint compound***	Room 264 northeast corner	
40535.488-2013	Gypsum wallboard/ joint compound***	Room 270/271 corridor southeast corner near 269	
40535.488-2014	Gypsum wallboard/ joint compound***	Room 280 northeast corner	
40535.488-2015	Gypsum wallboard/ joint compound***	Room 288 southwest corner	
40535.488-2016	2' x 4' Lay-in-ceiling-tile	Level 2 north E/W hall near art gallery	
40535.488-2017	2' x 4' Lay-in-ceiling-tile	Room 267 Men's restroom	
40535.488-2018	2' x 4' Lay-in-ceiling-tile	Level 2 N/S hall near 270	
40535.488-2019	2' x 4' Lay-in-ceiling-tile	Level 2 N/S hall near 279	
40535.488-2020	2' x 4' Lay-in-ceiling-tile	Level 2 south E/W hall near 291	

***Composite if positive

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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; 600/R-93/116; Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Mr. Gregg Middaugh,
Attn.: Ms. Claire Tsai, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.438

Batch#: 202109795

Date Received: 4/1/2021

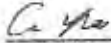
Samples Rec'd: 15

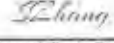
Date Analyzed: 4/1/2021

Samples Analyzed: 15

Rev. Code: GS65J-1

Project Loc.: Pierce College Early Learning
Education

Analyzed by:  Carolyn Yeo

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-1024	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
2	40535.488-1025	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
3	40535.488-1026	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
4	40535.488-1027	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
5	40535.488-1028	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
6	40535.488-2011	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	24	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose
7	40535.488-2012	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
8	40535.488-2013	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
9	40535.488-2014	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
10	40535.488-2015	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
11	40535.488-2016	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	65	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Mr. Gregg Middaugh,
Attn: Ms. Claire Tsai, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.438

Batch#: 202109795

Date Received: 4/1/2021

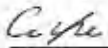
Samples Rec'd: 15

Date Analyzed: 4/1/2021

Samples Analyzed: 15

Rev. Code: GS55J-1

Project Loc.: Pierce College Early Learning
Education

Analyzed by: 
Carolyn Yao

Approved Signatory: 
Siwei (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
12	40535.488-2017	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	66	Cellulose
13	40535.488-2018	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	62	Cellulose
14	40535.488-2019	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	69	Cellulose
15	40535.488-2020	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105. Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager: Gregg Middaugh, Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA
98102
Tel: 206.233.9639
Date Report Issued: 4/28/2021

Date Analyzed: 4/28/2021
Client Job#: 40535.488
Project Location: Pierce College Olympic South
Emergency Clean Up Floor 1
Laboratory batch#: 202110046
Samples Received: 42

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/800/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.

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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: Pierce College Olympic South Emergency Clean Up Floor 1 Project #: 40535.488

Analysis requested: PLM Date: 4/27/2021

Relinquished by/Signature: _____ Date/Time: _____

Received by/Signature: Carahyo Yea Date/Time: 4/27/21 16:06

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- Brian Stanford
- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Prudy Stoudt-McRae
- Janet Murphy
- Kaitlin Soukup
- Claire Tsai
- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Ryan Hunter
- Michelle Dodson
-

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours
- 24 Hours
- 48 Hours
- 3-5 Days
- Other _____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40535.488-1029	Gypsum wallboard/joint compound	Room 161 East column face	SAT
40535.488-1030	Gypsum wallboard/joint compound	Room 181B Southwest corner	
40535.488-1031	Cove base 4" brown vinyl/ brown mastic	Room 166A West wall	
40535.488-1032	Cove base 4" tan vinyl/ cream mastic	Room 171 Northeast corner	
40535.488-1033	Cove base 4" tan vinyl/ clear mastic	Room 183 North wall	
40535.488-1034	Tan carpet Mastic	Room 166 East doorway	
40535.488-1035	Tan carpet Mastic/ white leveling compound	Room 168 near West entry	
40535.488-1036	Green and tan carpet Mastic	Hall outside room 184	
40535.488-1037	Tan Carpet mastic/ concrete	LV1 North hall near center South pillar	
40535.488-1038	Vinyl woven wallpaper	Room 161 South column face	



20211046 - m

LABORATORY CHAIN OF CUSTODY

40535.488-1039	Grey sheet vinyl flooring jute backing/ tan Mastic/ white leveling compound	Room 168 West entry way	
40535.488-1040	Fiberglass foil cover	Room 165 straight run above LCT	
40535.488-1041	Fiberglass woven wrap	Northwest hall outside RM 168 above LCT	
40535.488-1042	Fiberglass duct foil cover	West hall outside RM 170 above LCT	
40535.488-1043	Fiberglass foil cover duct wrap	Room 181 South wall	
40535.488-1044	Fiberglass duct wrap	Room 185 East wall large duct	
40535.488-1045	Vibration Cloth- lower cloth	Mech room 173 lower duct Southwest ducting	
40535.488-1046	Soft grey duct sealant	Northwest hall outside RM 168 above drop ceiling	
40535.488-1047	Soft white duct seam sealant	West hall outside RM 184 above drop ceiling	
40535.488-1048	Hard white Duct sealant	Room 185 into East wall duct penetration	
40535.488-1049	Grey duct seam sealant	Mech room 173 Southwest ducting	
40535.488-1050	Clear subgrade conduit penetration	Mech room 173 West wall	
40535.488-1051	Soft beige window Sealant	North hall West interior window between frame and floor	
40535.488-1052	Soft grey window Sealant	Room 168 interior between window and frame	
40535.488-1053	Soft black window Sealant	Room 181 Interior window between window and frame	
40535.488-1054	White caulk	Room 164 East wall backsplash	
40535.488-1055	Red fire stop	Room 160 Northeast column	
40535.488-1056	Red fire stop	Room 160 Northeast column	
40535.488-1057	1" tan ceramic floor tile/ grey grout	Room 165 Northeast floor	
40535.488-1058	3" white ceramic covebase tile/ grey grout	Room 165 East cove base	
40535.488-1059	Sound dampening panel	Room 181 East end on ceiling	
40535.488-1060	Hard mudded fitting	Room 165 T-connection above ceiling	
40535.488-1061	Hard mudded fitting	Northwest hall outside RM 168 above ceiling	
40535.488-1062	Floor concrete	Room 001 Southeast near column	
40535.488-1063	Floor concrete	Room 166A East area	
40535.488-1064	Floor concrete	North hall outside RM 180	
40535.488-1065	Waffle ceiling concrete	Room 172 between column and ceiling	
40535.488-1066	Waffle ceiling concrete	Room 181 West ceiling	
40535.488-1067	Waffle ceiling concrete	Room 185 Southwest ceiling	
40535.488-1068	Black sink undercoat	Room 164 East wall	
40535.488-1069	Vinyl woven wallpaper	Room 161 South column face	
40535.488-1070	Grey sheet vinyl flooring jute backing/ tan Mastic/ white leveling compound	Room 168 West entry way	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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.: Gregg Middaugh,
Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110046

Date Received: 4/27/2021

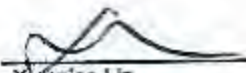
Samples Rec'd: 42


Date Analyzed: 4/28/2021

Samples Analyzed: 42

Rev.code:AJ340

Project Loc.: Pierce College Olympic South
Emergency Clean Up Floor 1

Analyzed by:  Xingping Lin

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488 -1029	1	White powdery material with paper	2	Chrysotile	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose, Glass fibers
2	40535.488 -1030	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
3	40535.488 -1031	1	Brown rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
4	40535.488 -1032	1	Tan rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Cream mastic		None detected	Mastic/binder	3	Cellulose
		3	Trace white powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
5	40535.488 -1033	1	Tan rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Cream mastic		None detected	Mastic/binder	3	Cellulose
		3	Brown woven fibrous material		None detected	Filler, Binder	85	Synthetic fibers
6	40535.488 -1034	1	Tan mastic		None detected	Mastic/binder	3	Cellulose
		2	Trace gray brittle material		None detected	Filler, Binder	2	Cellulose
		3	White brittle material		None detected	Filler, Binder	2	Cellulose
7	40535.488 -1035	1	Trace clear woven fibrous material		None detected	Filler, Binder	83	Synthetic fibers
		2	Tan mastic		None detected	Mastic/binder	3	Cellulose
		3	Trace white brittle material		None detected	Filler, Binder	2	Cellulose
8	40535.488 -1036	1	Green/tan mastic		None detected	Mastic/binder	3	Cellulose
9	40535.488 -1037	1	Tan mastic		None detected	Mastic/binder	2	Cellulose
		2	Trace gray brittle material		None detected	Filler, Binder	3	Cellulose
10	40535.488 -1038	1	Tan vinly with paint		None detected	Vinyl/binder, Paint	2	Cellulose
		2	White woven fibrous material		None detected	Filler, Binder	79	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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.: Gregg Middaugh,
Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110046

Date Received: 4/27/2021

Samples Rec'd: 42

Date Analyzed: 4/28/2021

Samples Analyzed: 42

Rev.code:AJ340

Project Loc.: Pierce College Olympic South
Emergency Clean Up Floor 1

Analyzed by: Xingbing Lin

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
10	40535.488-1038	3	White mastic		None detected	Mastic/binder	3	Cellulose
11	40535.488-1039	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Tan mastic		None detected	Mastic/binder	2	Cellulose
		3	Tan woven fibrous material		None detected	Filler, Binder	83	Synthetic fibers
		4	Clear mastic		None detected	Mastic/binder	2	Cellulose
		5	Trace gray/white brittle material		None detected	Filler, Binder	3	Cellulose
12	40535.488-1040	1	Silver foil		None detected	Foil/binder		None detected
		2	White paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	68	Cellulose, Glass fibers
		3	Yellow fibrous material		None detected	Filler	90	Glass fibers
13	40535.488-1041	1	White brittle material with woven fibrous material		None detected	Filler, Binder	19	Synthetic fibers
		2	Silver foil		None detected	Foil/binder		None detected
		3	White paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	67	Cellulose, Glass fibers
		4	Yellow fibrous material		None detected	Filler	88	Glass fibers
14	40535.488-1042	1	Silver foil		None detected	Foil/binder		None detected
		2	Tan paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	69	Cellulose, Glass fibers
		3	Yellow fibrous material		None detected	Filler	89	Glass fibers
15	40535.488-1043	1	White brittle material with woven fibrous material		None detected	Filler, Binder	21	Cellulose, Glass fibers
		2	Silver foil		None detected	Foil/binder		None detected
		3	Tan paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	67	Cellulose, Glass fibers
		4	Yellow fibrous material		None detected	Filler	91	Glass fibers

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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.: Gregg Middaugh,
Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110046

Date Received: 4/27/2021

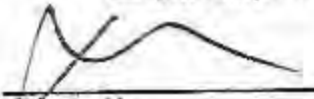
Samples Rec'd: 42


Date Analyzed: 4/28/2021

Samples Analyzed: 42

Rev. code: AJ340

Project Loc.: Pierce College Olympic South
Emergency Clean Up Floor 1

Analyzed by:  Xingping Lin

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
16	40535.488 -1044	1	Tan brittle material with woven fibrous material		None detected	Filler, Binder	18	Cellulose, Glass fibers
		2	Silver foil		None detected	Foil/binder		None detected
		3	Tan paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	69	Cellulose, Glass fibers
		4	Yellow fibrous material		None detected	Filler	89	Glass fibers
17	40535.488 -1045	1	White/gray fibrous material	61	Chrysotile	Binder/filler	26	Cellulose
18	40535.488 -1046	1	Soft gray soft/elastic material		None detected	Binder, Filler	4	Cellulose
19	40535.488 -1047	1	Soft white soft/elastic material		None detected	Binder, Filler	3	Cellulose
20	40535.488 -1048	1	Hard white brittle material with paint		None detected	Filler, Binder, Paint	2	Cellulose
		2	White paper		None detected	Filler	75	Cellulose
21	40535.488 -1049	1	Gray soft material		None detected	Filler, Binder	3	Cellulose
22	40535.488 -1050	1	Clear soft/elastic material		None detected	Binder, Filler	2	Cellulose
23	40535.488 -1051	1	Soft beige soft/elastic material		None detected	Binder, Filler	4	Cellulose
24	40535.488 -1052	1	Soft gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
25	40535.488 -1053	1	Soft black soft/elastic material		None detected	Binder, Filler	3	Cellulose
26	40535.488 -1054	1	White soft/elastic material		None detected	Binder, Filler	2	Cellulose
27	40535.488 -1055	1	Red soft/elastic material		None detected	Binder, Filler	5	Cellulose
28	40535.488 -1056	1	Red soft/elastic material		None detected	Binder, Filler	4	Cellulose
		2	Trace white brittle material		None detected	Filler, Binder	2	Cellulose
		3	Trace gray fibrous material		None detected	Binder/filler	65	Cellulose
29	40535.488 -1057	1	Tan ceramic		None detected	Ceramic/binder		None detected
		2	Gray brittle/sandy material		None detected	Binder, Sand	2	Cellulose
		3	Clear mastic		None detected	Mastic/binder	2	Cellulose
30	40535.488 -1058	1	White ceramic		None detected	Ceramic/binder		None detected

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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.: Gregg Middaugh,
Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110046

Date Received: 4/27/2021

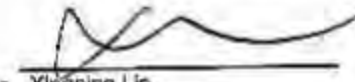
Samples Rec'd: 42


Date Analyzed: 4/28/2021

Samples Analyzed: 42

Rev. code: AJ340

Project Loc.: Pierce College Olympic South
Emergency Clean Up Floor 1

Analyzed by:  Xingping Lin

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
30	40535.488 -1058	2	Gray brittle/sandy material		None detected	Binder, Sand	2	Cellulose
		3	Clear mastic		None detected	Mastic/binder	3	Cellulose
31	40535.488 -1059	1	White woven fibrous material		None detected	Filler, Binder	85	Synthetic fibers
32	40535.488 -1060	1	White powdery material with woven fibrous material		None detected	Binder/filler	35	Cellulose, Glass fibers
		2	Gray foamy material		None detected	Synthetic foam		None detected
33	40535.488 -1061	1	White powdery material with woven fibrous material and paint		None detected	Binder/filler, Paint	36	Cellulose, Glass fibers
		2	Gray foamy material		None detected	Synthetic foam		None detected
34	40535.488 -1062	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
35	40535.488 -1063	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
36	40535.488 -1064	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
37	40535.488 -1065	1	Gray/tan sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
38	40535.488 -1066	1	Gray/tan sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
39	40535.488 -1067	1	Gray/tan sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
40	40535.488 -1068	1	Black soft/loose material	3	Chrysotile	Filler, Fine particles	5	Cellulose
41	40535.488 -1069	1	Tan vinly with paint		None detected	Vinyl/binder, Paint	2	Cellulose
		2	White woven fibrous material		None detected	Filler, Binder	78	Cellulose
		3	White mastic		None detected	Mastic/binder	3	Cellulose
42	40535.488 -1070	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Tan mastic		None detected	Mastic/binder	2	Cellulose
		3	Tan woven fibrous material		None detected	Filler, Binder	84	Synthetic fibers

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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; [PLM]
 EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Gregg Middaugh, Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Claire Tsai
 Job#: 40535.488 Batch#: 202110046 Date Received: 4/27/2021
 Samples Rec'd: 42 Date Analyzed: 4/28/2021 Samples Analyzed: 42 Rev.code:AJ340

Project Loc.: Pierce College Olympic South
 Emergency Clean Up Floor 1

Analyzed by:  Xingping Lin Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
42	40535.488 -1070	4	Clear mastic		None detected	Mastic/binder	3	Cellulose
		5	Trace gray/white brittle material		None detected	Filler, Binder	2	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Mr. Gregg Middaugh, Ms. Claire Tsai	Date Analyzed: 5/12/2021
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535,488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Emergency Clean up Floor 1
Tel: 206.233.9639	Laboratory batch#: 202110170
Date Report Issued: 5/12/2021	Samples Received: 13

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



202110170

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Emergency Clean Up Floor 1 Project #: 40535.488

Analysis requested: PLM

Date: 5/11/2021

Relinqu'd by/Signature: *Carlye Yeo*

Date/Time: 5/11/2021

Received by/Signature: *Carlye Yeo*

Date/Time: 5/11/21 16:20

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- | | | |
|--|---|--|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input type="checkbox"/> Ferman Fletcher |
| <input checked="" type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Mark Hiley | <input checked="" type="checkbox"/> Claire Tsai | <input type="checkbox"/> Michelle Dodson |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Holly Tuttle | <input type="checkbox"/> _____ |

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 | | |

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-1071	Door core	Room 181A-2 5 foot wood door	
40535.488-1072	Gypsum wallboard, joint compound	Room 161 south central column	
40535.488-1073	Gypsum wallboard, joint compound	Room 163 north wall	
40535.488-1074	Gypsum wallboard, joint compound	Room 164 southeast column	
40535.488-1075	Gypsum wallboard, joint compound	Room 166A west wall north column	
40535.488-1076	Gypsum wallboard, joint compound	Room 168 south central column	
40535.488-1077	Gypsum wallboard, joint compound	Room 169 west wall	
40535.488-1078	Gypsum wallboard, joint compound	Room 169 south column	
40535.488-1079	Gypsum wallboard, joint compound	Room 170 south wall	
40535.488-1080	Gypsum wallboard, joint compound	Room 170 north column	
40535.488-1081	Gypsum wallboard, joint compound	Room 171 west wall	
40535.488-1082	Gypsum wallboard, joint compound	Room 172 west wall	
40535.488-1083	Gypsum wallboard, joint compound	Room 172 west column	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98108, Tel: 206.833.1111, Fax: 206.833.8717, NVLAP Lab Code: 201057-0

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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; 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn: Mr. Gregg Middaugh,
Ms. Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110170

Date Received: 5/11/2021

Samples Rec'd: 13

Date Analyzed: 5/12/2021

Samples Analyzed: 13

Project Loc.: Pierce College Olympic South
Emergency Clean up Floor 1

Analyzed by: 
Gordon Yiu

Approved Signature: 
Steve (Fanyun) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-1071	1	Brown wood debris		None detected	Wood debris	6	Cellulose
2	40535.488-1072	1	White powdery material		None detected	Binder, Filler	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
3	40535.488-1073	1	Trace white powdery material		None detected	Binder, Filler	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose, Glass fibers
4	40535.488-1074	1	Trace white powdery material		None detected	Binder, Filler	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose, Glass fibers
5	40535.488-1075	1	White powdery material with trace paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose, Glass fibers
6	40535.488-1076	1	Trace white powdery material		None detected	Binder, Filler	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose, Glass fibers
7	40535.488-1077	1	Trace white powdery material		None detected	Binder, Filler	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose, Glass fibers
8	40535.488-1078	1	Trace white powdery material		None detected	Binder, Filler	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose, Glass fibers
9	40535.488-1079	1	Trace white powdery material		None detected	Binder, Filler	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose, Glass fibers
10	40535.488-1080	1	White powdery material		None detected	Binder, Filler	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose, Glass fibers
11	40535.488-1081	1	Trace white powdery material		None detected	Binder, Filler	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	20	Cellulose, Glass fibers
12	40535.488-1082	1	Trace white powdery material		None detected	Binder, Filler	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose, Glass fibers
13	40535.488-1083	1	White powdery material with paper		None detected	Binder, Filler	21	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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: [PLM] EPA
 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn: Mr. Gregg Middaugh, Client: PBS Engineering and Environmental, Seattle, Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Ms. Claire Tsai

Job#: 40535.488, Batch#: 202110170, Date Received: 5/11/2021

Samples Rec'd: 13, Date Analyzed: 5/12/2021, Samples Analyzed: 13

Project Loc: Pierco College Olympic South
 Emergency Clean up Floor 1

Analyzed by:  Carolyn Yoo
 Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
13	40535.488-1083	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose, Glass fibers

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestos.com, admin@seattleasbestos.com

Project Manager:	Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dodson	Date Analyzed:	6/21/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Abatement and Repairs
Tel:	206.233.9639	Laboratory batch#:	202110486
Date Report Issued:	6/21/2021	Samples Received:	14

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



202110486

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement and Repairs

Project #: 40535.488

Analysis requested: PLM

Date: 06/18/2021

Relinquished by/Signature: *Claire Tsai*

Date/Time: 6/18/21

Received by/Signature: *Carolyn Yeo G Ye*

Date/Time: 6/21/21 10:30

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-1084	Gypsum wallboard, joint compound	East Entrance	
40535.488-1085	Gypsum wallboard, joint compound	West Entrance	
40535.488-1086	Gypsum wallboard, joint compound	Room 160 southeast corner	
40535.488-1087	Gypsum wallboard, joint compound	Room 161 east entrance	
40535.488-1088	Gypsum wallboard, joint compound	Room 161A East	
40535.488-1089	Gypsum wallboard, joint compound	Room 161 SW corner	
40535.488-1090	Gypsum wallboard, joint compound	Room 161B West	
40535.488-1091	Gypsum wallboard, joint compound	Room 168 SE	
40535.488-1092	Gypsum wallboard, joint compound	Room 173 West entrance	
40535.488-1093	Gypsum wallboard, joint compound	Column by room 180	
40535.488-1094	Gypsum wallboard, joint compound	Column across from room 181	
40535.488-1095	Gypsum wallboard, joint compound	Room 181 North Central	
40535.488-1096	Gypsum wallboard, joint compound	Room 181A NE corner	
40535.488-1097	Gypsum wallboard, joint compound	Room 181A-2 NW	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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.: Gregg Middaugh,
Claire Tsai, Mike
Smith, Ferman
Fletcher, Michelle
Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110486


Date Received: 6/21/2021


Samples Rec'd: 14

Date Analyzed: 6/21/2021

Samples Analyzed: 14

Project Loc.: Pierce College olympic South
Abatement and Repairs

Analyzed by: 
Xingping Lin

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488 -1084	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	34	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose, Glass fibers
		3	Gray foamy material		None detected	Synthetic foam		None detected
2	40535.488 -1085	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
3	40535.488 -1086	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
4	40535.488 -1087	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	36	Cellulose
		2	Gray foamy material		None detected	Synthetic foam		None detected
5	40535.488 -1088	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	36	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
6	40535.488 -1089	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	34	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
7	40535.488 -1090	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	34	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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.: Gregg Middaugh,
Claire Tsai, Mike
Smith, Ferman
Fletcher, Michelle
Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110486

Date Received: 6/21/2021

Samples Rec'd: 14

Date Analyzed: 6/21/2021

Samples Analyzed: 14

Project Loc.: Pierce College olympic South
Abatement and Repairs

Analyzed by: Xingping Liu

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
7	40535.488 -1090	3	Gray foamy material		None detected	Synthetic foam		None detected
8	40535.488 -1091	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	33	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
9	40535.488 -1092	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	36	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
10	40535.488 -1093	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	34	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
11	40535.488 -1094	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	33	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
12	40535.488 -1095	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	36	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected
13	40535.488 -1096	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		None detected

SEATTLE ASBESTOS TEST

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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.: Gregg Middaugh,
Claire Tsai, Mike
Smith, Ferman
Fletcher, Michelle
Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110486


Date Received: 6/21/2021


Samples Rec'd: 14

Date Analyzed: 6/21/2021

Samples Analyzed: 14

Project Loc.: Pierce College olympic South
Abatement and Repairs

Analyzed by:  Xingping Lin

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
14	40535.488 -1097	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	37	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
		3	Gray foamy material		None detected	Synthetic foam		Cellulose, Glass fibers

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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4500 9th Ave., NE, Suite 300, Seattle, WA 98105
Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dor	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1084

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 1
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 1

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	0	50	50
Slide 3	1	49	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	1	399	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.25%

Analyzed By: Xingping Lin



Reviewed by: Steve Zhang, President

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dox	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1085

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 2
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 2

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	1	49	50
Slide 3	0	50	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	1	399	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.25%

Analyzed By: Xingping Lin



Reviewed by: Steve Zhang, President

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dor	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1086

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 3
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 3

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	1	49	50
Slide 2	0	50	50
Slide 3	0	50	50
Slide 4	1	49	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.5%

Analyzed By: Xingping Lin

Reviewed by: Steve Zhang, President



SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200766 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dor	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1088

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 5
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 4

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	0	50	50
Slide 3	1	49	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	1	49	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.5%

Analyzed By: Xingping Lin



Reviewed by: Steve Zhang, President

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dor	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1089

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 6
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 5

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	1	49	50
Slide 2	0	50	50
Slide 3	0	50	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	1	49	50
Slide 8	0	50	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.5%

Analyzed By: Xingping Lin

Reviewed by: Steve Zhang, President



SEATTLE ASBESTOS TEST

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dox	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1090

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 7
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 6

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	0	50	50
Slide 3	1	49	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	1	49	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.5%

Analyzed By: Xingping Lin

Reviewed by: Steve Zhang, President



SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dor	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1091

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 8
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 7

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	0	50	50
Slide 3	0	50	50
Slide 4	1	49	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	1	399	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.25%

Analyzed By: Xingping Lin



Reviewed by: Steve Zhang, President

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dor	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1092

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 9
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 8

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	0	50	50
Slide 3	0	50	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	1	49	50
Total	1	399	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.25%

Analyzed By: Xingping Lin



Reviewed by: Steve Zhang, President

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dox	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1093

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 10
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 9

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	1	49	50
Slide 3	0	50	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	1	49	50
Slide 8	0	50	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.5%

Analyzed By: Xingping Lin

Reviewed by: Steve Zhang, President



SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200766 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dox	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1094

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 11
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 10

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	1	49	50
Slide 2	0	50	50
Slide 3	0	50	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	1	49	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.5%

Analyzed By: Xingping Lin

Reviewed by: Steve Zhang, President



SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dor	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1095

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 12
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

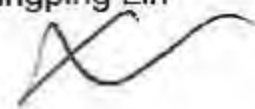
New Lab ID: 11

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	1	49	50
Slide 3	0	50	50
Slide 4	1	49	50
Slide 5	1	49	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	3	397	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.75%

Analyzed By: Xingping Lin



Reviewed by: Steve Zhang, President

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

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Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dox	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1096

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 13
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 12

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	0	50	50
Slide 3	1	49	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	1	49	50
Slide 7	0	50	50
Slide 8	1	49	50
Total	3	397	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.75%

Analyzed By: Xingping Lin

Reviewed by: Steve Zhang, President



SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 201057

19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel:425.673.9850, Fax:425.673.9810
4500 9th Ave., NE, Suite 300, Seattle, WA 98105
Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Gregg Middaugh, Claire Tsai, Mike Smith, Ferman Fletcher, Michelle Dot	Client Job #: 40535.488
Client: PBS Engineering and Environmental, Seattle	Laboratory Batch #: 202110498
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Date Received: 6/22/2021
	Samples Received: 13
	Date Analyzed: 6/22/2021

Project: Pierce College olympic South Abatement and Repairs

Sample Requested for Point Count 40535.488 -1097

Previous Analytical Information

Previously Analyzed by: Xingping Lin
 Previous Batch #: 202110486
 Previous Lab ID: 14
 Previous Description: White powdery material with paint and paper
 Layer to be Point Counted: 1
 Asbestos Type Found: Chrysotile
 Asbestos Percentage Found: 2

Point Count Analytical Procedures

New Lab ID: 13

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	1	49	50
Slide 2	0	50	50
Slide 3	1	49	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	0	50	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
 Percentage of Asbestos: 0.5%

Analyzed By: Xingping Lin

Reviewed by: Steve Zhang, President



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:	Mr. Gregg Middaugh, Ms. Claire Tsai, Mr. Mike Smith, Mr. Ferman Fletcher	Date Analyzed:	6/25/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Oty. South Emergency Clean Up
Tel:	206.233.9639	Laboratory batch#:	202110521
Date Report issued:	6/25/2021	Samples Received:	20

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

202110521



LABORATORY CHAIN OF CUSTODY

Project: Oly. South Emergency CleanupProject #: 40535-488Analysis requested: PLMDate: 6/23/21Relinq'd by/Signature: [Signature]Date/Time: 6/23/21Received by/Signature: [Signature]Date/Time: 6/24/21 9:48Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- Brian Stanford
 Willem Mager
 Gregg Middaugh
 Mark Hiley
 Tim Ogden
 Prudy Stoudt-McRae

- Janet Murphy
 Kaitlin Soukup
 Martin Estira
 Justin Day
 Claire Tsai
 Holly Tuttle

- Mike Smith
 Ferman Fletcher
 Ryan Hunter
 Michelle Dodson

TURN AROUND TIME:

- 1 Hour
 2 Hours
 4 Hours

- 24 Hours
 48 Hours

- 3-5 Days
 Other _____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40535-488-1099	JC/GWB	Rm 0161, W. wall, N end	SAT
-1099	"	Rm 0161, E. wall, S end	
-1100	"	Rm 0161A, N wall, W end	
-1101	"	Rm 0164, W. wall, N end	
-1102	"	Rm 0166, N. Wall, Center	
-1103	"	Rm 0166, W. wall, W of door	
-1104	"	Rm 0166, NE Column	
-1105	"	Rm 0166A, S wall, W end	
-1106	"	Rm 0166A, E wall, N. End	
-1107	"	Rm 0169, W wall, W of door	
-1108	"	Rm 0169, S. wall, W end	
-1109	"	Rm 0170, W. Wall, S end	
-1110	"	Rm 0170, N. wall W. of column	
-1111	"	Rm 0171, N. Wall, W. end	
-1112	"	Rm 0171, S. wall, E. end	
-1113	"	Corridor outside Rm 0172 N. Wall	
-1114	"	Rm 0180, E wall, N end	
-1115	"	Rm 0181, S. wall, W. end	

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]

Mr. Gregg
Middaugh, Ms.
Attn: Claire Tsai, Mr. Mike
Smith, Mr. Ferran
Fletcher

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110521

Date Received: 6/24/2021

Samples Rec'd: 20

Date Analyzed: 6/25/2021

Samples Analyzed: 20

Project Loc.: Oly. South Emergency Clean Up

Analyzed by:  Carolyn Yeo

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-1098	1	White powdery material	2	Chrysotile	Binder, Filler	2	Cellulose
	Composite result <1%	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
2	40535.488-1099	1	White powdery material with trace paint	2	Chrysotile	Binder, Filler, Paint	3	Cellulose
	Composite result <1%	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
3	40535.488-1100	1	White chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder, Paint	29	Cellulose
4	40535.488-1101	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	Trace white chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose
5	40535.488-1102	1	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	20	Cellulose
6	40535.488-1103	1	White powdery material		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
7	40535.488-1104	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
8	40535.488-1105	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
9	40535.488-1106	1	White chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder, Paint	28	Cellulose
10	40535.488-1107	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
11	40535.488-1108	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	24	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
12	40535.488-1109	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9650, Fax: 425.673.9810, NVLAP Lab Code: 200765-0

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]

Mr. Gregg
Middaugh, Ms.
Attn: Claire Tsai, Mr. Mike
Smith, Mr. Ferman
Fletcher

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110521

Date Received: 6/24/2021

Samples Rec'd: 20

Date Analyzed: 6/25/2021

Samples Analyzed: 20

Project Loc.: Oly. South Emergency Clean Up

Analyzed by:  Carolyn Yoo

Approved Signatory:  Steve (Fanyou) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
12	40535.488-1109	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
13	40535.488-1110	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
14	40535.488-1111	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
15	40535.488-1112	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
16	40535.488-1113	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
17	40535.488-1114	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
18	40535.488-1115	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
19	40535.488-1116	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
20	40535.488-1117	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	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.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Mr. Gregg Middaugh, Ms. Michelle Dodson	Date Analyzed: 7/8/2021
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement and Repairs
Tel: 206.233.9639	Laboratory batch#: 202110640
Date Report Issued: 7/8/2021	Samples Received: 3

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

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]

Mr. Gregg
Attn: Middaugh, Ms.
Michelle Dodson
Job#: 40535.488
Samples Rec'd: 3
Project Loc.: Pierce College Olympic South
Abatement and Repairs

Client: PBS Engineering and
Environmental, Seattle

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

Batch#: 202110640
Date Analyzed: 7/8/2021

Date Received: 7/8/2021
Samples Analyzed: 3

Analyzed by: 
Carolyn Yeo

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-1118	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	Yellow woven fibrous material		None detected	Filler	85	Glass fibers
		3	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
2	40535.488-1119	1	Off-white powdery material with paint	2	Chrysotile	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
3	40535.488-1120	1	Off-white powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager:	Mr. Gregg Middaugh, Ms. Claire Tsai	Date Analyzed:	4/28/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Emergency Clean Up Floor 2
Tel:	206.233.9639	Laboratory batch#:	202110045
Date Report Issued:	4/28/2021	Samples Received:	56

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



202110045

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Emergency clean up floor 2

Project #: 40535.488

Analysis requested: PLM

Date: 4/27/2021

Relinquished by/Signature: *Clare Tsai*

Date/Time: 4/27/21

Received by/Signature: *Carmela Yeo G Yeo*

Date/Time: 4/27/21 16:06

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- | | | |
|--|---|--|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input type="checkbox"/> Ferman Fletcher |
| <input checked="" type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Mark Hiley | <input checked="" type="checkbox"/> Claire Tsai | <input type="checkbox"/> Michelle Dodson |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Holly Tuttle | <input type="checkbox"/> _____ |

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 | | |

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-2021	Gypsum wallboard/ joint compound	Room 266 Northeast corner	SAT
40535.488-2022	Gypsum wallboard/ joint compound	Room 292 North wall	
40535.488-2023	4" black vinyl Cove base/ brown mastic	Room 260 Northwest corner	
40535.488-2024	4" tan vinyl Cove base/ cream and brown mastic	Room 262 Northwest corner	
40535.488-2025	4" tan vinyl Cove base/ cream mastic	Room 271 Southwest corner	
40535.488-2026	4" grey vinyl Cove base/ creamy mastic	Room 275 Northeast corner	
40535.488-2027	4" black vinyl Cove base/ cream mastic	Central hall outside Room 275	
40535.488-2028	4" black vinyl Cove base/ cream mastic	West hall Northwest corner outside RM 292	
40535.488-2029	Tan carpet mastic	Room 275 West side near door	
40535.488-2030	Tan carpet mastic	Room 278 West side near door	
40535.488-2031	Tan carpet mastic/ white Leveling compound	Room 288 at doorway	
40535.488-2032	Yellow carpet mastic	West hall outside room 291	
40535.488-2033	Yellow carpet mastic	North hall West of stair case	
40535.488-2034	12" off-whiteish Vinyl tile / black mastic	Room 283 Northeast corner	
40535.488-2035	12" off-white Vinyl tile / black mastic	Room 283 South area	
40535.488-2036	12" off-white Vinyl tile / black mastic	Room 283 Southeast area	
40535.488-2037	Grey Sheet flooring/ brown mastic	Room 284 South elevated platform	
40535.488-2038	Grey Sheet flooring/ brown mastic	Room 284 South elevated platform	
40535.488-2039	Black Residual mastic	Room 270 entry way	



202110045

LABORATORY CHAIN OF CUSTODY

40535.488-2040	Tan tack board mastic	Room 271 North wall	
40535.488-2041	1' acoustic ceiling tile / brown glue dot	Room 276 Northwest corner	
40535.488-2042	1' acoustic ceiling tile / brown glue dot	Room 291 East ceiling	
40535.488-2043	Soft grey duct sealant	Room 266 North wall vertical duct	
40535.488-2044	Fiberglass and cover / tan sealant	East hall outside room 263 duct above ceiling	
40535.488-2045	Fiberglass duct seam cover/ grey sealant	East hall outside room 263 duct above ceiling	
40535.488-2046	Fiberglass straight run with paper	Room 267 East area above ceiling	
40535.488-2047	Fiberglass/ grey duct seam sealant	Room 267 center of room above ceiling	
40535.488-2048	Fiberglass/ grey duct sealant	Main hall outside room 279 above ceiling	
40535.488-2049	Red fiberglass black coating supply duct lining	Room 283 Southeast elevation	
40535.488-2050	White sealant on water pipe straight run	LV2 West skybridge East end	
40535.488-2051	Acoustic paneling	Room 283 West wall	
40535.488-2052	Acoustic paneling	Room 283 West wall	
40535.488-2053	Grey duct tape	Room 267 East wall above ceiling	
40535.488-2054	White conduit wall penetration sealant	Room 292 Northeast corner above ceiling	
40535.488-2055	Fiberglass/ red fire stop	Room 262 East closet on duct above ceiling	
40535.488-2056	Fiberglass/ red fire stop	Hall outside room 270 on duct above ceiling	
40535.488-2057	Red fire stop	Room 292 near door above ceiling	
40535.488-2058	Red fire stop	Room 292 near door above ceiling	
40535.488-2059	Soft grey interior window sealant	Room 271 between frame and sill	
40535.488-2060	Soft black interior window sealant	Main hall room 274 between glass and frame	
40535.488-2061	Soft black interior window sealant	West hall room 286 between glass and frame	
40535.488-2062	Soft grey and soft beige interior window sealant	North hall near stairs between frame and floor	
40535.488-2063	White sealant	Room 292 between wall and concrete ceiling	
40535.488-2064	1" off-white ceramic floor tile grey grout	Room 268 Northeast area	
40535.488-2065	3" off-white ceramic cove base tile grey grout	Room 268 Northeast area	
40535.488-2066	Column caulk	Room 283 Northeast corner	
40535.488-2067	Column caulk	Room 283 Northeast corner	
40535.488-2068	White sink undercoating	Room 285A South wall	
40535.488-2069	Lay-in ceiling tile 2'x4' fissure pinhole pattern	Room 262 East closet	
40535.488-2070	Lay-in ceiling tile 2'x4' white face fiberglass	Room 292 center of room	
40535.488-2071	Floor concrete	Room 263 Southwest corner	



202110045

LABORATORY CHAIN OF CUSTODY

40535.488-2072	Floor concrete	Room 266 Northwest at floor penetration	
40535.488-2073	Floor concrete	Room 283 Northeast ramp area	
40535.488-2074	Ceiling concrete	Room 262 East closet	
40535.488-2075	Ceiling concrete	Room 271 East wall	
40535.488-2076	Ceiling concrete	Main hall outside room 279	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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 800/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM]

Mr. Gregg
Attn.: Middaugh, Ms. Claire Tsai
Job#: 40535.488
Samples Rec'd: 56
Project Loc.: Pierce College Olympic South
Emergency Clean Up Floor 2

Client: PBS Engineering and Environmental, Seattle
Batch#: 202110045
Date Analyzed: 4/28/2021

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Date Received: 4/27/2021
Samples Analyzed: 56

Analyzed by:  Carolyn Yeo
Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-2021	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
2	40535.488-2022	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
3	40535.488-2023	1	Black/dark brown rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Trace brown mastic		None detected	Mastic/binder	3	Cellulose
4	40535.488-2024	1	Beige rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	2	Cellulose
		3	Brown mastic		None detected	Mastic/binder	3	Cellulose
5	40535.488-2025	1	Beige rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	3	Cellulose
		3	Trace white powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
6	40535.488-2026	1	Gray rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	3	Cellulose
7	40535.488-2027	1	Black rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	2	Cellulose
		3	Trace brown wood debris		None detected	Wood debris	4	Cellulose
8	40535.488-2028	1	Black rubbery material		None detected	Rubber/binder	3	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	2	Cellulose
		3	Trace white powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
9	40535.488-2029	1	Tan/yellow mastic		None detected	Mastic/binder	3	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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]

Mr. Gregg
Attn.: Middaugh, Ms.
Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110045

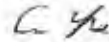
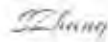
Date Received: 4/27/2021

Samples Rec'd: 56

Date Analyzed: 4/28/2021

Samples Analyzed: 56

Project Loc.: Pierce College Olympic South
Emergency Clean Up Floor 2

Analyzed by: Corilyn Yeo

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
10	40535.488-2030	1	Tan/yellow mastic		None detected	Mastic/binder	3	Cellulose
11	40535.488-2031	1	Tan/dark yellow mastic		None detected	Mastic/binder	2	Cellulose
		2	Off-white brittle material		None detected	Binder, Filler	2	Cellulose
12	40535.488-2032	1	Yellow mastic		None detected	Mastic/binder	2	Cellulose
13	40535.488-2033	1	Yellow mastic		None detected	Mastic/binder	5	Cellulose, Synthetic fibers
14	40535.488-2034	1	Off-white tile		None detected	Vinyl/binder, Mineral grains	3	Cellulose
		2	Black mastic		None detected	Mastic/binder	3	Cellulose, Polyethylene
		3	Off-white brittle material		None detected	Binder, Filler	2	Cellulose
15	40535.488-2035	1	Off-white tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		2	Black mastic		None detected	Mastic/binder	3	Cellulose
		3	Off-white brittle material		None detected	Binder, Filler	2	Cellulose
16	40535.488-2036	1	Off-white tile		None detected	Vinyl/binder, Mineral grains	3	Cellulose
		2	Black mastic		None detected	Mastic/binder	3	Cellulose
17	40535.488-2037	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
		3	Yellow mastic		None detected	Mastic/binder	2	Cellulose
		4	Brown wood debris		None detected	Wood debris	5	Cellulose
18	40535.488-2038	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Yellow mastic		None detected	Mastic/binder	2	Cellulose
19	40535.488-2039	1	Black mastic		None detected	Mastic/binder	3	Cellulose
20	40535.488-2040	1	Brown fibrous material		None detected	Filler	80	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	3	Cellulose
21	40535.488-2041	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	65	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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]

Mr. Gregg
Attn: Middaugh, Ms. Claire Tsai
Job#: 40535.488
Samples Rec'd: 56
Project Loc.: Pierce College Olympic South
Emergency Clean Up Floor 2

Client: PBS Engineering and Environmental, Seattle
Batch#: 202110045
Date Analyzed: 4/28/2021

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Date Received: 4/27/2021
Samples Analyzed: 56

Analyzed by:  Carolyn Yao
Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
22	40535.488-2042	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	54	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
23	40535.488-2043	1	Gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
24	40535.488-2044	1	Yellow fibrous material		None detected	Filler	87	Glass fibers
		2	Silver foil		None detected	Foil/binder		None detected
		3	Woven off-white fibrous material		None detected	Filler	91	Glass fibers
		4	Tan soft/elastic material		None detected	Binder, Filler	2	Cellulose
25	40535.488-2045	1	Yellow fibrous material		None detected	Filler	88	Glass fibers
		2	Silver foil		None detected	Foil/binder		None detected
		3	Off-white fibrous material		None detected	Filler	86	Glass fibers
		4	Gray soft/elastic material with fibrous material		None detected	Binder, Filler	20	Cellulose, Glass fibers
26	40535.488-2046	1	Yellow fibrous material		None detected	Filler	84	Glass fibers
		2	Silver foil		None detected	Foil/binder		None detected
		3	Off-white paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	68	Cellulose, Glass fibers
27	40535.488-2047	1	Yellow fibrous material		None detected	Filler	85	Glass fibers
		2	Silver foil		None detected	Foil/binder		None detected
		3	Gray soft/elastic material with woven fibrous material		None detected	Binder, Filler	21	Cellulose
28	40535.488-2048	1	Yellow fibrous material		None detected	Filler	85	Glass fibers
		2	Off-white fibrous material		None detected	Filler	86	Glass fibers
		3	Silver foil		None detected	Foil/binder		None detected

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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]

Mr. Gregg
 Attn: Middaugh, Ms. Claire Tsai
 Job#: 40535.488
 Samples Rec'd: 56
 Project Loc.: Pierce College Olympic South Emergency Clean Up Floor 2

Client: PBS Engineering and Environmental, Seattle
 Batch#: 202110045
 Date Analyzed: 4/28/2021

Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Date Received: 4/27/2021
 Samples Analyzed: 56

Analyzed by: *C Ye* Carolyn Yeo
 Approved Signatory: *S Zhang* Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
28	40535.488-2048	4	Gray soft/elastic material with woven fibrous material		None detected	Binder, Filler	21	Cellulose
29	40535.488-2049	1	Red/pink fibrous material		None detected	Filler	92	Glass fibers
		2	Black coating		None detected	Binder, Filler	2	Cellulose
30	40535.488-2050	1	Silver foil		None detected	Foil/binder		None detected
		2	Off-white paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	61	Cellulose, Glass fibers
31	40535.488-2051	1	Off-white woven fibrous material		None detected	Filler	87	Glass fibers
		2	Yellow fibrous material		None detected	Filler	84	Glass fibers
32	40535.488-2052	1	Off-white woven fibrous material		None detected	Filler	90	Glass fibers
		2	Yellow fibrous material		None detected	Filler	89	Glass fibers
33	40535.488-2053	1	Silver soft/elastic material with woven fibrous material		None detected	Binder, Filler	23	Cellulose
		2	Gray mastic		None detected	Mastic/binder	2	Cellulose
34	40535.488-2054	1	White brittle material		None detected	Binder, Filler	3	Cellulose
35	40535.488-2055	1	Yellow fibrous material		None detected	Filler	84	Glass fibers
		2	Off-white woven fibrous material		None detected	Filler	87	Glass fibers
		3	Silver foil		None detected	Foil/binder		None detected
		4	Red soft/elastic material with fibrous material		None detected	Binder, Filler	30	Cellulose, Glass fibers
36	40535.488-2056	1	Yellow fibrous material		None detected	Filler	84	Glass fibers
		2	Red soft/elastic material with fibrous material		None detected	Binder, Filler	26	Cellulose, Glass fibers
37	40535.488-2057	1	Red soft/elastic material		None detected	Binder, Filler	2	Cellulose
38	40535.488-2058	1	Red soft/elastic material		None detected	Binder, Filler	2	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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]

Mr. Gregg
Attn.: Middaugh, Ms. Claire Tsai
Job#: 40535.488
Samples Rec'd: 56
Project Loc.: Pierce College Olympic South Emergency Clean Up Floor 2

Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102

Batch#: 202110045
Date Analyzed: 4/28/2021

Date Received: 4/27/2021
Samples Analyzed: 56

Analyzed by:  Carolyn Yee
Approved Signatory:  Steve (Fanyao) Zheng, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
39	40535.488-2059	1	Gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
40	40535.488-2060	1	Black soft material with paint		None detected	Binder, Filler, Paint	2	Cellulose
41	40535.488-2061	1	Black soft material with paint		None detected	Binder, Filler, Paint	2	Cellulose
42	40535.488-2062	1	Gray/beige soft/elastic material		None detected	Binder, Filler	3	Cellulose
43	40535.488-2063	1	Off-white soft material		None detected	Binder, Filler	2	Cellulose
44	40535.488-2064	1	Off-white ceramic		None detected	Ceramic/binder		None detected
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
		3	Brown fibrous material		None detected	Filler	87	Cellulose
45	40535.488-2065	1	Off-white/yellow ceramic		None detected	Ceramic/binder		None detected
		2	Trace gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
46	40535.488-2066	1	Gray soft material with paint	3	Chrysotile	Binder, Filler, Paint	2	Cellulose
47	40535.488-2067	1	Gray soft material with paint	3	Chrysotile	Binder, Filler, Paint	2	Cellulose
48	40535.488-2068	1	Pink soft/loose material		None detected	Filler, Fine particles	3	Cellulose
49	40535.488-2069	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	62	Cellulose
50	40535.488-2070	1	Off-white soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	Yellow fibrous material		None detected	Filler	88	Glass fibers
51	40535.488-2071	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
		2	Trace black mastic		None detected	Mastic/binder	3	Cellulose
52	40535.488-2072	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
53	40535.488-2073	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
54	40535.488-2074	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
55	40535.488-2075	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
56	40535.488-2076	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestos.com, admin@seattleasbestos.com

Project Manager:	Mr. Gregg Middaugh, Ms. Claire Tsai, Mr. Mike Smith, Mr. Ferman Fletcher, Ms. Michelle Dodson	Date Analyzed:	6/22/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Abatement and Repairs
Tel:	206.233.9639	Laboratory batch#:	202110487
Date Report Issued:	6/22/2021	Samples Received:	37

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



202110487

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement and Repairs

Project #: 40535.488

Analysis requested: PLM

Date: 06/18/2021

Relinqu'd by/Signature: Claire Tsai

Date/Time: 6/18/21

Received by/Signature: Carmelita Yee

Date/Time: 6/21/21 10:30

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-2077	12" acoustical ceiling tile, brown mastic	Room 272 south area	SAT
40535.488-2078	12" acoustical ceiling tile, brown mastic	Room 272 northeast area	
40535.488-2079	12" acoustical ceiling tile, brown mastic	Room 273 south area	
40535.488-2080	12" acoustical ceiling tile, brown mastic	Room 273 north area	
40535.488-2081	12" acoustical ceiling tile, brown mastic	Room 274 south area	
40535.488-2082	12" acoustical ceiling tile, brown mastic	Room 274 north area	
40535.488-2083	12" acoustical ceiling tile, brown mastic	Room 276 north area	
40535.488-2084	12" acoustical ceiling tile, brown mastic (lighter)	Room 276 south area	
40535.488-2085	12" acoustical ceiling tile, brown mastic	Room 277 north area	
40535.488-2086	12" acoustical ceiling tile, brown mastic	Room 277 south area	
40535.488-2087	12" acoustical ceiling tile light fissures, brown mastic	Room 278 east area	
40535.488-2088	12" acoustical ceiling tile patch of heavy fissure, brown mastic (lighter)	Room 278 west area	
40535.488-2089	12" acoustical ceiling tile, brown mastic	Room 279 north area	
40535.488-2090	12" acoustical ceiling tile, brown mastic	Room 279 south area	
40535.488-2091	12" acoustical ceiling tile, brown mastic	Room 280 south area	
40535.488-2092	12" acoustical ceiling tile, brown mastic	Room 280 north area	
40535.488-2093	12" acoustical ceiling tile light fissures, brown mastic	Room 281 east area	
40535.488-2094	12" acoustical ceiling tile patch of heavy fissure, brown mastic	Room 281 west area	



202110487

LABORATORY CHAIN OF CUSTODY

40535.488-2095	12" acoustical ceiling tile, brown mastic	Room 282 south area	
40535.488-2096	12" acoustical ceiling tile, brown mastic	Room 282 north area	
40535.488-2097	12" acoustical ceiling tile, brown mastic	Room 286 south area	
40535.488-2098	12" acoustical ceiling tile, brown mastic	Room 286 north area	
40535.488-2099	12" acoustical ceiling tile, brown mastic	Room 290 east area	
40535.488-2100	12" acoustical ceiling tile, brown mastic	Room 287 south area	
40535.488-2101	12" acoustical ceiling tile, brown mastic	Room 287 north area	
40535.488-2102	12" acoustical ceiling tile, brown mastic	Room 288 north area	
40535.488-2103	12" acoustical ceiling tile, brown mastic	Room 288 south area	
40535.488-2104	12" acoustical ceiling tile, cream mastic	Room 289 south area	
40535.488-2105	12" acoustical ceiling tile, cream mastic	Room 289 north area	
40535.488-2106	12" acoustical ceiling tile, brown mastic	Room 290 west area	
40535.488-2107	12" acoustical ceiling tile, brown mastic	Room 291 east area	
40535.488-2108	12" acoustical ceiling tile, brown mastic	Room 291 west area	
40535.488-2109	Concrete	Room 284 east area	
40535.488-2110	Concrete	Room 284 northwest area	
40535.488-2111	CMU with paint	Hall near Rm. 283 above drop ceiling	
40535.488-2112	CMU with concrete fill	Hall near Rm. 283 above drop ceiling	
40535.488-2113	Concrete fill	Hall near Rm. 283 above drop ceiling	

SEATTLE ASBESTOS TEST

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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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Mr. Gregg Middaugh,
Ms. Claire Tsai, Mr.
Mike Smith, Mr.
Ferman Fletcher, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110487

Date Received: 6/21/2021

Samples Rec'd: 37

Date Analyzed: 6/22/2021

Samples Analyzed: 37

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by:  Carolyn Yoo

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-2077	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	74	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
2	40535.488-2078	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	69	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
3	40535.488-2079	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	63	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
4	40535.488-2080	1	Gray fibrous material		None detected	Filler, Perlite	68	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
5	40535.488-2081	1	Gray fibrous material with trace paint		None detected	Paint, Filler, Perlite	73	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
6	40535.488-2082	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	65	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
7	40535.488-2083	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
8	40535.488-2084	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
9	40535.488-2085	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	71	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
10	40535.488-2086	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	74	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
11	40535.488-2087	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	60	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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;
600/R-93/110: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Mr. Gregg Middaugh,
Ms. Claire Tsai, Mr.
Attn: Mike Smith, Mr.
Ferman Fletcher, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110487

Date Received: 6/21/2021

Samples Rec'd: 37

Date Analyzed: 6/22/2021

Samples Analyzed: 37

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by:  Carolyn Yao

Approved Signatory:  Steve (Fayao) Zhong, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
12	40535.488-2088	1	Gray fibrous material with trace paint		None detected	Paint, Filler, Perlite	74	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
13	40535.488-2089	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	65	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
14	40535.488-2090	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	70	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
15	40535.488-2091	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	68	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
16	40535.488-2092	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	69	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
17	40535.488-2093	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	62	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
18	40535.488-2094	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	63	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
19	40535.488-2095	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	73	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
20	40535.488-2096	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	67	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
21	40535.488-2097	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	71	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
22	40535.488-2098	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	62	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98109, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

(PLM) EPA

Mr. Gregg Middaugh,
Ms. Claire Tsai, Mr.
Attn: Mike Smith, Mr.
Ferman Fletcher, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110487

Date Received: 6/21/2021

Samples Rec'd: 37

Date Analyzed: 6/22/2021

Samples Analyzed: 37

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by: Carolyn Yoo

Approved Signatory: Steve (Filayan) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
23	40535.488-2099	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	73	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
24	40535.488-2100	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
25	40535.488-2101	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	68	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
26	40535.488-2102	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	75	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
27	40535.488-2103	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	65	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
28	40535.488-2104	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	69	Cellulose
		2	Off-white/yellow mastic		None detected	Mastic/binder	2	Cellulose
		3	Off-white fibrous material		None detected	Filler	81	Cellulose
29	40535.488-2105	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose
		2	Off-white/Yellow mastic		None detected	Mastic/binder	2	Cellulose
		3	Off-white fibrous material		None detected	Filler	85	Cellulose
30	40535.488-2106	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	70	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
31	40535.488-2107	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	64	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
32	40535.488-2108	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	63	Cellulose
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
33	40535.488-2109	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Mr. Gregg Middaugh,
Ms. Claire Tsai, Mr.
Attn: Mike Smith, Mr.
Ferman Fletcher, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110487

Date Received: 6/21/2021


Samples Rec'd: 37

Date Analyzed: 6/22/2021

Samples Analyzed: 37

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by: 
Carolyn Yeo

Approved Signatory: 
Steve (Fanyan) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
34	40535.488-2110	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
35	40535.488-2111	1	Gray hard sandy/brittle material with paint		None detected	Sand, Filler, Cement/binder, Paint	3	Cellulose
36	40535.488-2112	1	Gray hard sandy/brittle material		None detected	Sand, Filler, Cement/binder	2	Cellulose
37	40535.488-2113	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	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.seattleasbestos.com, admin@seattleasbestos.com

Project Manager: Mr. Gregg Middaugh, Ms. Claire Tsai	Date Analyzed: 7/1/2021
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535,488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement and Repairs
Tel: 206.233.9639	Laboratory batch#: 202110580
Date Report Issued: 7/1/2021	Samples Received: 68

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

202110580-M



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement and Repairs

Project #: 40535.488

Analysis requested: PLM

Date: 06/18/2021

Relinquished by/Signature:

Date/Time:

Received by/Signature: CANDY YEO *C Yeo*

Date/Time: 7/1/21 9:21

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours
- 24 Hours
- 48 Hours
- 3-5 Days
- Other

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-2114	Gypsum wallboard, joint compound	Column south side of skybridge to Olympic North, north face	SAT
40535.488-2115	Gypsum wallboard, joint compound	Column across Rm 266, north face	
40535.488-2116	Gypsum wallboard, joint compound	Rm 265 northeast column, south face	
40535.488-2117	Gypsum wallboard, joint compound	Column north of Rm 264 door, east face in hall	
40535.488-2118	Gypsum wallboard, joint compound	Rm 264 southeast column, north face	
40535.488-2119	Gypsum wallboard, joint compound	Column south of Rm 264 door, west face	
40535.488-2120	Gypsum wallboard, joint compound	Column at Rm 270 entry, south face	
40535.488-2121	Gypsum wallboard, joint compound	Rm 270 northwest column, east face	
40535.488-2122	Gypsum wallboard, joint compound	Rm 275 southeast column, north face	
40535.488-2123	Gypsum wallboard, joint compound	Column south of Rm 275 door, north face	
40535.488-2124	Gypsum wallboard, joint compound	Column near Rm 289, south face	
40535.488-2125	Gypsum wallboard, joint compound	Rm 278 south column, west face	
40535.488-2126	Gypsum wallboard, joint compound	Column near Rm 280, north face	
40535.488-2127	Gypsum wallboard, joint compound	Column in Rm 285A, north face	
40535.488-2128	Gypsum wallboard, joint compound	Rm 284A west column, east face	
40535.488-2129	Gypsum wallboard, joint compound	Rm 284 west column, east face	
40535.488-2130	Gypsum wallboard, joint compound	Rm 284 south column, north face	
40535.488-2131	Gypsum wallboard, joint compound	Rm 283 south column, north face	
40535.488-2132	Gypsum wallboard, joint compound	Rm 283 east column, west face	

202110580-M



LABORATORY CHAIN OF CUSTODY

40535.488-2133	Gypsum wallboard, joint compound	Rm 283, north wall, center area	
40535.488-2134	Gypsum wallboard, joint compound	Rm 283, south wall, west area	
40535.488-2135	Gypsum wallboard, joint compound	Rm 284, north wall, east of main door	
40535.488-2136	Gypsum wallboard, joint compound	Rm 284, wall south of exit stairs	
40535.488-2137	Gypsum wallboard, joint compound	Rm 284A, south wall, west area	
40535.488-2138	Gypsum wallboard, joint compound	Rm 284A, east wall, north of door	
40535.488-2139	Gypsum wallboard, joint compound	Rm 282, west wall, north of door	
40535.488-2140	Gypsum wallboard, joint compound	Rm281, north wall, east area	
40535.488-2141	Gypsum wallboard, joint compound	Rm 285, south wall, west area	
40535.488-2142	Gypsum wallboard, joint compound	Rm 285A, west wall, north area	
40535.488-2143	Gypsum wallboard, joint compound	Rm 279, north wall, west area	
40535.488-2144	Gypsum wallboard, joint compound	Rm 278, south wall, west area	
40535.488-2145	Gypsum wallboard, joint compound	Rm 278, north wall, east area	
40535.488-2146	Gypsum wallboard, joint compound	Rm 277, south wall, west area	
40535.488-2147	Gypsum wallboard, joint compound	Rm 276, east wall, south area	
40535.488-2148	Gypsum wallboard, joint compound	Rm 288, west wall, north area	
40535.488-2149	Gypsum wallboard, joint compound	Rm 290, south wall, west area	
40535.488-2150	Gypsum wallboard, joint compound	Rm 290, north wall, west of window	
40535.488-2151	Gypsum wallboard, joint compound	Rm 291, west wall, north area	
40535.488-2152	Gypsum wallboard, joint compound	Rm 291, south wall, east area	
40535.488-2153	Gypsum wallboard, joint compound	Rm 292, south wall, east area	
40535.488-2154	Gypsum wallboard, joint compound	Rm 289, west wall, north area	
40535.488-2155	Gypsum wallboard, joint compound	Rm 287, south wall, east of door	
40535.488-2156	Gypsum wallboard, joint compound	Rm 286, north wall, west area	
40535.488-2157	Gypsum wallboard, joint compound	Rm 275, west wall, north of door	
40535.488-2158	Gypsum wallboard, joint compound	Rm 275, north wall, east area	
40535.488-2159	Gypsum wallboard, joint compound	Rm 274, south wall, west area	
40535.488-2160	Gypsum wallboard, joint compound	Rm 273, east wall, north area	
40535.488-2161	Gypsum wallboard, joint compound	Rm 272, west wall, north area	
40535.488-2162	Gypsum wallboard, joint compound	Corridor to 270/271, north wall, east area	
40535.488-2163	Gypsum wallboard, joint compound	Rm 269, west wall, south area	
40535.488-2164	Gypsum wallboard, joint compound	Rm 270, south wall, west area	
40535.488-2165	Gypsum wallboard, joint compound	Rm 270, east wall, north area	
40535.488-2166	Gypsum wallboard, joint compound	Rm 271, north wall, east area	
40535.488-2167	Gypsum wallboard, joint compound	Rm 271, east wall, center area	
40535.488-2168	Gypsum wallboard, joint compound	Rm 268, south wall, west area	

202110580-M



LABORATORY CHAIN OF CUSTODY

40535.488-2169	Gypsum wallboard, joint compound	Rm 268, north wall, east area	
40535.488-2170	Gypsum wallboard, joint compound	Rm 267, west wall, north area	
40535.488-2171	Gypsum wallboard, joint compound	Rm 267, east wall, south area	
40535.488-2172	Gypsum wallboard, joint compound	Rm 264, west wall, south of door	
40535.488-2173	Gypsum wallboard, joint compound	Rm 263, west wall, north area	
40535.488-2174	Gypsum wallboard, joint compound	Rm 263, south wall, east area	
40535.488-2175	Gypsum wallboard, joint compound	Rm 262, east wall, south area	
40535.488-2176	Gypsum wallboard, joint compound	Rm 262 closet, north wall	
40535.488-2177	Gypsum wallboard, joint compound	Rm 261, west wall, north of door	
40535.488-2178	Gypsum wallboard, joint compound	Rm 261 closet, north wall	
40535.488-2179	Gypsum wallboard, joint compound	Rm 260, west wall, north of door	
40535.488-2180	Gypsum wallboard, joint compound	Rm 265, west wall, south area	
40535.488-2181	Gypsum wallboard, joint compound	Rm 266, south wall, east of door	

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9650, Fax: 425.673.9610, 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; 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Mr. Gregg Middaugh,
Ms. Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110580

Date Received: 7/1/2021

Samples Rec'd: 68

Date Analyzed: 7/1/2021

Samples Analyzed: 68

Rev. Code: MN34D

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by: 
Carolyn Yeo

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-2114	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	27	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
2	40535.488-2115	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
3	40535.488-2116	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose
4	40535.488-2117	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
5	40535.488-2118	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
6	40535.488-2119	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
7	40535.488-2120	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	25	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
8	40535.488-2121	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
9	40535.488-2122	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
10	40535.488-2123	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	20	Cellulose
11	40535.488-2124	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.8850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

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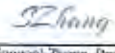
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[PLM] EPA

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Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.488
Batch#: 202110580
Date Received: 7/1/2021
Samples Rec'd: 68
Date Analyzed: 7/1/2021
Samples Analyzed: 68
Rev. Code: HN34D
Project Loc.: Pierce College Olympic South Abatement and Repairs

Analyzed by: 
Carolyn Yoo

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
11	40535.488-2124	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
12	40535.488-2125	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
13	40535.488-2126	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
14	40535.488-2127	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	Pink chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
15	40535.488-2128	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	24	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
16	40535.488-2129	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
17	40535.488-2130	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
18	40535.488-2131	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
19	40535.488-2132	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
20	40535.488-2133	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	25	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
21	40535.488-2134	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
22	40535.488-2135	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	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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600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn: Mr. Gregg Middaugh,
Ms. Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110580

Date Received: 7/1/2021

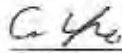
Samples Rec'd: 68

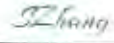
Date Analyzed: 7/1/2021

Samples Analyzed: 68

Rev. Code: HN34D

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by:  Carolyn Yee

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
22	40535.488-2135	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
23	40535.488-2136	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
24	40535.488-2137	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	20	Cellulose
25	40535.488-2138	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
26	40535.488-2139	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
27	40535.488-2140	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	26	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
28	40535.488-2141	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	25	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
29	40535.488-2142	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
30	40535.488-2143	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
31	40535.488-2144	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
32	40535.488-2145	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
32	40535.488-2145	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	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: 200769-0

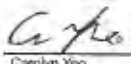
Disclaimer: This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government.


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;
600/R-93/118: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Mr. Gregg Middaugh, Ms. Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.488
Batch#: 202110580
Date Received: 7/1/2021
Samples Rec'd: 68
Date Analyzed: 7/1/2021
Samples Analyzed: 68
Rev. Code: HN34D
Project Loc.: Pierce College Olympic South Abatement and Repairs

Analyzed by: 
Carolyn Yoo

Approval Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
33	40535.488-2146	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	25	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
34	40535.488-2147	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	24	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
35	40535.488-2148	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
36	40535.488-2149	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	20	Cellulose
37	40535.488-2150	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
38	40535.488-2151	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	26	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
39	40535.488-2152	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	25	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	20	Cellulose
40	40535.488-2153	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
41	40535.488-2154	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
42	40535.488-2155	1	White chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder	30	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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Mr. Gregg Middaugh, Ms. Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.488
Batch#: 202110580
Date Received: 7/1/2021
Samples Rec'd: 68
Date Analyzed: 7/1/2021
Samples Analyzed: 68
Rev. Code: HN34D
Project Loc.: Pierce College Olympic South Abatement and Repairs

Analyzed by: *C. Yoo*
Cecily Yoo

Approved Signatory: *S. Zhang*
Shere (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
43	40535.488-2156	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose
44	40535.488-2157	1	White chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
45	40535.488-2158	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	28	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
46	40535.488-2159	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
47	40535.488-2160	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
48	40535.488-2161	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	25	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
49	40535.488-2162	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
50	40535.488-2163	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose
51	40535.488-2164	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
52	40535.488-2165	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
53	40535.488-2166	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn: Mr. Gregg Middaugh,
Ms. Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110580

Date Received: 7/1/2021

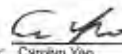
Samples Rec'd: 68

Date Analyzed: 7/1/2021

Samples Analyzed: 68

Rev. Code: HN34D

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by:  Carolyn Yoo

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
54	40535.488-2167	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	28	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
55	40535.488-2168	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose
56	40535.488-2169	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
57	40535.488-2170	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	Brown chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
58	40535.488-2171	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	Brown chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
59	40535.488-2172	1	White chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder	32	Cellulose
60	40535.488-2173	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
61	40535.488-2174	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
62	40535.488-2175	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
63	40535.488-2176	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
63	40535.488-2176	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
64	40535.488-2177	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	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: 200766-0

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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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Mr. Gregg Middaugh,
Ms. Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110580

Date Received: 7/1/2021

Samples Rec'd: 68

Date Analyzed: 7/1/2021

Samples Analyzed: 68

Rev. Code: HN34D

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed By: 
Carolyn Yeo

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
64	40535.488-2177	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
65	40535.488-2178	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	25	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
66	40535.488-2179	1	White chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder	31	Cellulose
67	40535.488-2180	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	22	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
68	40535.488-2181	1	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager:	Mr. Gregg Middaugh, Ms. Claire Tsai, Ms. Michelle Dodson	Date Analyzed:	4/9/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.438
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Early Childhood Education
Tel:	206.233.9639	Laboratory batch#:	202109869
Date Report Issued:	4/9/2021	Samples Received:	9

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

202109869-MM



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Early Childhood Education

Project #: 40535.438

Analysis requested: PLM

Date: 4/6/2021

Relinquished by/Signature:

Date/Time:

Received by/Signature: *Carlynn Lee Carter*

Date/Time: *4/8/21 10:20*

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- | | | |
|--|---|---|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input type="checkbox"/> Ferman Fletcher |
| <input checked="" type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Mark Hiley | <input checked="" type="checkbox"/> Claire Tsai | <input checked="" type="checkbox"/> Michelle Dodson |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Holly Tuttle | <input type="checkbox"/> _____ |

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 | | |

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-3001	Wall texture	Level 3 Mechanical Room	SAT
40535.488-3002	Wall texture, joint compound, tape	Level 3 Mechanical Room	
40535.488-3003	Joint compound, tape	Level 3 Mechanical Room	
40535.488-3004	Duct insulation	Level 3 Mechanical Room MZ-2	
40535.488-3005	Duct insulation	Level 3 Mechanical Room MZ-3	
40535.488-3006	Woven insulation	Level 3 Mechanical Room	
40535.488-3007	Fireproofing	Level 3 Mechanical Room	
40535.488-3008	Fireproofing	Level 3 Mechanical Room	
40535.488-3009	Fireproofing	Level 3 Mechanical Room	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Mr. Gregg Middaugh,
Ms. Claire Tsai, Ms.
Michelle Dodson

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.438

Batch#: 202109869

Date Received: 4/8/2021


Samples Rec'd: 9

Date Analyzed: 4/9/2021

Samples Analyzed: 9

Rev. Code: JY53A-1

Project Loc.: Pierce College Early Childhood
Education

Analyzed by:  Carolyn Yeo

Approved Signatory:  Steve (Fanyao) Zheng, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-3001	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
2	40535.488-3002	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	24	Cellulose
3	40535.488-3003	1	White powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose
4	40535.488-3004	1	Yellow fibrous material		None detected	Filler	90	Glass fibers
		2	Trace black asphaltic material		None detected	Asphalt/binder	2	Cellulose
5	40535.488-3005	1	Yellow fibrous material		None detected	Filler	87	Glass fibers
		2	Yellow mastic		None detected	Mastic/binder	3	Cellulose
6	40535.488-3006	1	Off-white woven fibrous material and paint		None detected	Filler, Paint	88	Glass fibers
7	40535.488-3007	1	Tan powdery material with fibrous material		None detected	Filler, Fine particles	15	Cellulose
8	40535.488-3008	1	Tan powdery material with fibrous material		None detected	Filler, Fine particles	20	Cellulose
9	40535.488-3009	1	Tan powdery material with fibrous material		None detected	Filler, Fine particles	19	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager:	Mr. Gregg Middaugh, Ms. Claire Tsai	Date Analyzed:	4/29/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535,488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Emergency Cleanup - Floor 3
Tel:	206.233.9639	Laboratory batch#:	202110061
Date Report Issued:	4/29/2021	Samples Received:	38

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



202110061

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Emergency Cleanup - Floor 3

Project #: 40535.488

Analysis requested: PLM

Date: 4/28/2021

Relinq'd by/Signature: *Claire Tsai*

Date/Time: 4/29/2021

Received by/Signature: *Carolyn Lee*

Date/Time: 4/29/21 10:01

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- | | | |
|--|---|--|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input type="checkbox"/> Ferman Fletcher |
| <input checked="" type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Mark Hiley | <input checked="" type="checkbox"/> Claire Tsai | <input type="checkbox"/> Michelle Dodson |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Holly Tuttle | <input type="checkbox"/> _____ |

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 | | |

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-3010	Gypsum wallboard/ joint compound	Room 321 west wall south area	SAT
40535.488-3011	Gypsum wallboard/ joint compound	Room 323A southeast corner	
40535.488-3012	Gypsum wallboard/ joint compound	Room 326A north wall	
40535.488-3013	Gypsum wallboard/ joint compound	Room 327A southeast corner	
40535.488-3014	Gypsum wallboard/ joint compound	Room 337 northeast corner	
40535.488-3015	Wall texture orange peel	Room 322 southwest area	
40535.488-3016	Wall texture orange peel	Room 326A north wall	
40535.488-3017	Wall texture orange peel	Room 327A east wall	
40535.488-3018	Yellow carpet mastic	LV 3 Student lounge northeast area	
40535.488-3019	Yellow carpet mastic	Room 337 east area	
40535.488-3020	Tan carpet mastic	Room 323 southwest area	
40535.488-3021	4" tan vinyl cove base, cream mastic	LV 3 Student lounge northeast area	
40535.488-3022	4" tan vinyl cove base, cream mastic	Room 326A north wall	
40535.488-3023	4" tan vinyl cove base, cream mastic	Hall near Room 335	
40535.488-3024	6" beige ceramic floor tile, grey grout	Room 338A Women's restroom	
40535.488-3025	4" white ceramic wall tile	Room 338B Men's restroom	
40535.488-3026	2' x 2' lay-in-ceiling-tile rough white	LV 3 Student lounge center area	
40535.488-3027	2' x 2' lay-in-ceiling-tile rough white	Hall near Room 320	
40535.488-3028	2' x 2' lay-in-ceiling-tile rough white	Hall near Room 331	



202110061

LABORATORY CHAIN OF CUSTODY

40535.488-3029	Pipe insulation and cover	Room 320 east wall	
40535.488-3030	Pipe insulation and cover	Room 327 northwest corner below floor	
40535.488-3031	Interior duct lining	Hall near 335 return duct above ceiling	
40535.488-3032	Black vibration cloth	Room 329 east area supply fan below floor	
40535.488-3033	Black vibration cloth	LV 3 Student lounge west area above ceiling	
40535.488-3034	Soft grey duct sealant	Hall near room 327 above ceiling	
40535.488-3035	Soft grey duct sealant	Room 327 northwest area below floor	
40535.488-3036	Soft grey duct sealant	Room 329 east area below floor	
40535.488-3037	Grey duct tape	Room 329 east area below floor	
40535.488-3038	Grey duct tape	Room 329 east area below floor	
40535.488-3039	Soft grey duct sealant	Room 338A above hard lid	
40535.488-3040	Soft black window sealant	Room 325 west wall window to frame	
40535.488-3041	Soft black window sealant	LV 3 north window near east stairs window to frame	
40535.488-3042	White vapor barrier	Room 323 southeast area above ceiling	
40535.488-3043	Silver vapor barrier	Hall near 335 above ceiling at roof penetration	
40535.488-3044	Black asphaltic material	Room 329 east exterior wall below floor	
40535.488-3045	Concrete	Room 321 floor	
40535.488-3046	Lightweight concrete	Room 327 northwest hatch raised floor	
40535.488-3047	Lightweight concrete	Room 329 east hatch raised floor	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel. 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Mr. Gregg Middaugh, Ms. Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.488
Batch#: 202110061
Date Received: 4/29/2021
Samples Rec'd: 38
Date Analyzed: 4/29/2021
Samples Analyzed: 38
Project Loc.: Pierce College Olympic South Emergency Cleanup - Floor 3

Analyzed by:  Carolyn Yau
Approved Signatory:  Steve (Fanyao) Zheng, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-3010	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	24	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
2	40535.488-3011	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
3	40535.488-3012	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	22	Cellulose
4	40535.488-3013	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	23	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
5	40535.488-3014	1	White powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
6	40535.488-3015	1	Trace white powdery material with paint and paper		None detected	Binder, Filler, Paint	20	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	23	Cellulose
7	40535.488-3016	1	Trace white chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder, Paint	25	Cellulose
8	40535.488-3017	1	Trace white powdery material with paint and paper		None detected	Binder, Filler, Paint	21	Cellulose
9	40535.488-3018	1	Trace gray fibrous material		None detected	Filler	80	Synthetic fibers
		2	Yellow mastic		None detected	Mastic/binder	3	Cellulose
10	40535.488-3019	1	Trace gray/green fibrous material		None detected	Filler	83	Synthetic fibers
		2	Yellow mastic		None detected	Mastic/binder	2	Cellulose
11	40535.488-3020	1	Tan/dark yellow mastic		None detected	Mastic/binder	2	Cellulose
12	40535.488-3021	1	Tan/beige rubbery material		None detected	Rubber/binder	3	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105. Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201067-0

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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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn: Mr. Gregg Middaugh,
Ms. Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110061

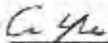
Date Received: 4/29/2021

Samples Rec'd: 38

Date Analyzed: 4/29/2021

Samples Analyzed: 38

Project Loc.: Pierce College Olympic South
Emergency Cleanup - Floor 3

Analyzed by: 
Carolyn Yeo

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
12	40535.488-3021	2	Off-white mastic		None detected	Mastic/binder	2	Cellulose
		3	White powdery material with paint		None detected	Binder, Filler, Paint	2	Cellulose
13	40535.488-3022	1	Tan/beige rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	3	Cellulose
		3	Trace white powdery material with paint		None detected	Binder, Filler, Paint	3	Cellulose
14	40535.488-3023	1	Tan/beige rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	3	Cellulose
		3	Trace white chalky material with paint and paper		None detected	Binder/filler, Gypsum/binder, Paint	28	Cellulose
15	40535.488-3024	1	White/beige ceramic		None detected	Ceramic/binder		None detected
		2	White sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
		3	Dark gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
16	40535.488-3025	1	Off-white ceramic		None detected	Ceramic/binder		None detected
17	40535.488-3026	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	68	Cellulose
18	40535.488-3027	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	67	Cellulose
19	40535.488-3028	1	Gray fibrous material with paint		None detected	Paint, Filler, Perlite	63	Cellulose
20	40535.488-3029	1	Silver foil		None detected	Foil/binder		None detected
		2	Off-white paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	66	Cellulose, Glass fibers
		3	Yellow fibrous material		None detected	Filler	89	Glass fibers
21	40535.488-3030	1	Silver foil		None detected	Foil/binder		None detected
		2	Off-white paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	70	Cellulose, Glass fibers
		3	Yellow fibrous material		None detected	Filler	88	Glass fibers

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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; 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn: Mr. Gregg Middaugh,
Ms. Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202110061

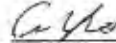
Date Received: 4/29/2021

Samples Rec'd: 38

Date Analyzed: 4/29/2021

Samples Analyzed: 38

Project Loc.: Pierce College Olympic South
Emergency Cleanup - Floor 3

Analyzed by:  Carolyn Yeo

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
22	40535.488-3031	1	Gray fibrous material		None detected	Filler	91	Cellulose, Synthetic fibers
23	40535.488-3032	1	Black soft/elastic material with fibrous material		None detected	Binder, Filler	35	Cellulose, Glass fibers
24	40535.488-3033	1	Black soft/elastic material with fibrous material		None detected	Binder, Filler	32	Cellulose, Glass fibers
25	40535.488-3034	1	Gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
26	40535.488-3035	1	Gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
27	40535.488-3036	1	Gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
28	40535.488-3037	1	Silver soft/elastic material with woven fibrous material		None detected	Binder, Filler	20	Cellulose
		2	Gray mastic		None detected	Mastic/binder	2	Cellulose
		3	Black plastic		None detected	Plastic		None detected
29	40535.488-3038	1	Silver soft/elastic material with woven fibrous material		None detected	Binder, Filler	24	Cellulose
		2	Gray mastic		None detected	Mastic/binder	3	Cellulose
		3	Black plastic		None detected	Plastic		None detected
30	40535.488-3039	1	Gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
31	40535.488-3040	1	Black soft/elastic material		None detected	Binder, Filler	3	Cellulose
32	40535.488-3041	1	Black soft/elastic material with paint		None detected	Binder, Filler, Paint	2	Cellulose
33	40535.488-3042	1	White plastic		None detected	Plastic		None detected
		2	Tan paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	65	Cellulose, Glass fibers
34	40535.488-3043	1	Silver foil		None detected	Foil/binder		None detected
		2	Tan paper with mastic and woven fibrous material		None detected	Filler, Mastic/binder	69	Cellulose, Glass fibers
35	40535.488-3044	1	Black asphaltic material		None detected	Asphalt/binder	2	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Mr. Gregg Middaugh, Ms. Claire Tsai
 Client: PBS Engineering and Environmental, Seattle
 Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.488
 Batch#: 202110061
 Date Received: 4/29/2021
 Samples Rec'd: 38
 Date Analyzed: 4/29/2021
 Samples Analyzed: 38
 Project Loc.: Pierce College Olympic South
 Emergency Cleanup - Floor 3

Analyzed by: 
 Carolyn Yoo

Approval Signatory: 
 Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
36	40535.488-3045	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
37	40535.488-3046	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
38	40535.488-3047	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Mr Gregg Middaugh, Ms. Claire Tsai	Date Analyzed: 5/27/2021
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.438
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Emergency Clean Up
Tel: 206.233.9639	Laboratory batch#: 202110292
Date Report Issued: 5/27/2021	Samples Received: 13

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



202110292

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Emergency Cleanup

Project #: 40535.438

Analysis requested: PLM

Date: 5/26/2021

Relinqu'd by/Signature: Claire Tsai

Date/Time: 5/26/2021 9:30

Received by/Signature: Cecily Yea

Date/Time: 5/26/21 13:22

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- Brian Stanford
- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Prudy Stoudt-McRae
- Janet Murphy
- Kaitlin Soukup
- Claire Tsai
- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Ryan Hunter
- Michelle Dodson

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours
- 24 Hours
- 48 Hours
- 3-5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-4001	Sandy soil	Northwest elevation near shrubs approximately 20 ft from building from double doors	SAT
40535.488-4002	Soil	West elevation approximately 5 feet from building outside Room 172 window	
40535.488-4003	Sandy soil	West elevation pile of dirt approximately 20 ft from building	
40535.488-4004	Soil	Southwest elevation approximately 8 ft from building in landscape	
40535.488-4005	Sandy soil	South elevation approximately 35 ft from building under playground rubber chunks	
40535.488-4006	Sandy soil	Southeast elevation approximately 25 ft from building near column base	
40535.488-4007	Sandy soil	East elevation approximately 25 ft from ECE drive thru double doors	
40535.488-4008	Soil	East elevation approximately 3 ft from building ECE drive thru soil under rocks south of Room 168 exterior door	
40535.488-4009	Soil	East elevation north area approximately 2 ft from building south of skybridge to Cascade	
40535.488-4010	Soil	North elevation at building base in landscape dirt	
40535.488-4011	Soil	North elevation approximately 50 ft from building under tree	
40535.488-4012	Sand	West elevation approximately 58 ft from building under orange and red play equipment	
40535.488-4013	Soil	Cascade north west elevation base of building 45 feet from southeast corner	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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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]

Mr. Gregg
Attn: Middaugh, Ms.
Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.438

Batch#: 202110292

Date Received: 5/26/2021

Samples Rec'd: 13

Date Analyzed: 5/27/2021

Samples Analyzed: 13

Project Loc.: Pierce College Olympic South
Emergency Clean Up

C. Yeo

Steve Zhang

Analyzed by: Carolyn Yeo

Approved Signatory: Steve (Faiyian) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-4001	1	Soil		None detected	Soil, Filler, Sand	5	Cellulose
2	40535.488-4002	1	Soil		None detected	Soil, Filler, Sand	2	Cellulose
3	40535.488-4003	1	Soil		None detected	Soil, Filler, Sand	3	Cellulose
4	40535.488-4004	1	Soil		None detected	Soil, Filler, Sand	2	Cellulose
5	40535.488-4005	1	Soil		None detected	Soil, Filler, Sand	2	Cellulose
6	40535.488-4006	1	Soil		None detected	Soil, Filler, Sand	4	Cellulose
7	40535.488-4007	1	Soil		None detected	Soil, Filler, Sand	2	Cellulose
8	40535.488-4008	1	Soil		None detected	Soil, Filler, Sand	3	Cellulose
9	40535.488-4009	1	Soil		None detected	Soil, Filler, Sand	3	Cellulose
10	40535.488-4010	1	Soil		None detected	Soil, Filler, Sand	3	Cellulose
11	40535.488-4011	1	Soil		None detected	Soil, Filler, Sand	5	Cellulose
12	40535.488-4012	1	Soil		None detected	Soil, Filler, Sand	2	Cellulose
13	40535.488-4013	1	Soil		None detected	Soil, Filler, Sand	4	Cellulose

APPENDIX B

TEM Bulk Sampling Information

TEM Bulk Sample Inventory

TEM Bulk Sample Laboratory Data Sheets

TEM Bulk Sample Chain of Custody Documentation

TEM ASBESTOS SAMPLE INVENTORY

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Result</u>	<u>Lab</u>
40535.488 -3/29/21-TEM-1	Yellow pebble sheet vinyl flooring	Kitchen 161B	19.99% Chrysotile	Lab/Cor
40535.488 -4/6/21-TEM-1	Fireproofing	Room 284 on top lay-in ceiling tile	0.04% Winchite	Lab/Cor
40535.488 -4/27/21-TEM-1	Fireproofing	Room 283 west wall on beam above ceiling	0.04% Winchite	Lab/Cor
40535.488 -6/17/21-TEM-1	Fireproofing	LV2 north/south corridor south end	NAD	Lab/Cor
40535.488 -6/17/21-TEM-2	Fireproofing	LV2 mechanical mezzanine	0.05% Winchite	Lab/Cor

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 210266

Report Number: 210266R01

Client: PBS Engineering + Environmental

Report Date: 3/31/2021

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Early Childhood Education Reno

Project No.: 40535.438

PO Number:

Sub Project:

Reference No.:

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

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
210266 - S1	40535.438-3/29/21-TEM-1 - Yellow Pebble Sheet Vinyl Flooring - Kitchen 161B	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	All sample layers homogenized, per customer request.	3/30/2021

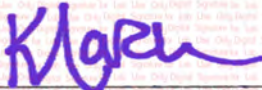
ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,



Kate March
Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210266 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Early Childhood Education Reno

Report Number: 210266R01
Date Received: 3/30/2021

Lab/Cor Sample No.: S1
Client Sample No.: 40535.438-3/29/21-TEM-1
Description: Yellow Pebble Sheet Vinyl Flooring - Kitchen 161B

Sample Notes:
 All sample layers homogenized, per customer request.

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2021	JEOL-Sr 1200	20000

AnalYTE Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	19.99%	Acid Solubles	39.55%
Total Asbestos Percent	19.99%	Organics	38.84%
		Residue	1.62%
		Total Other Non-Asbestos Percent	80.01%

Reviewed by:

Kate March
 X
 Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210266 **SEA** **Report Number:** 210266R01
Client: PBS Engineering + Environmental **Date Received:** 3/30/2021
Project Name: Pierce College Early Childhood Education Reno

Lab/Cor Sample No: S1 **SampleNotes:**
Client Sample No: 40535.438-3/29/21-TEM-1 All sample layers homogenized, per customer request.
Description: Yellow Pebble Sheet Vinyl Flooring - Kitchen 161B

Container Weight	13.72642 g	Hydrolysis Filter PreWeight	13.76895 g
Weight Before Ash	13.81504 g	Filter Post Hydrolysis	13.78793 g
Orig Sample Weight	0.08862 g	After Hydrolysis Weight	0.01898 g
Weight After Ash	13.78062 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.05420 g	Hydrolysis Adjusted Weight	0.01915 g
Percent Organics	38.84%	Begin Volume	20 ml
		Acid Solubles	39.55%

Grid	Analyte	Visual Estimate	Elements	Comment
G7	Chrysotile	95.00%		
G8	Chrysotile	90.00%		

Reviewed by:

Kate March
 Kate March
 Quality Control Officer

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 210295

Report Number: 210295R02

Client: PBS Engineering + Environmental

Report Date: 6/3/2021

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Early Childhood Education Reno

Project No.: 40535.438

PO Number:

Sub Project:

Reference No.:

Revised Report to include LAA memo.

While no Regulated Asbestos was detected in this sample, potential Libby Amphibole Asbestos (LAA) was detected. Libby Amphibole Asbestos has been classified by the EPA as hazardous to human health, please reference https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=1026

Report Note: for more information on the LAA classification.

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

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
210295 - S1	40535.438-4/6/21-TEM-1 - Fireproofing - Room 284 on Top Lay-in-Ceiling Tile	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		4/8/2021

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X _____
Kate March
Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210295 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Early Childhood Education Reno

Report Number: 210295R02
Date Received: 4/8/2021

Lab/Cor Sample No: S1
Client Sample No: 40535.438-4/6/21-TEM-1
Description: Fireproofing - Room 284 on Top Lay-in-Ceiling Tile

Container Weight	13.66591 g	Hydrolysis Filter PreWeight	13.68671 g
Weight Before Ash	13.75183 g	Filter Post Hydrolysis	13.71871 g
Orig Sample Weight	0.08592 g	After Hydrolysis Weight	0.03200 g
Weight After Ash	13.73672 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.07081 g	Hydrolysis Adjusted Weight	0.03261 g
Percent Organics	17.59%	Begin Volume	20 ml
		Acid Solubles	44.46%

Grid	Analyte	Visual Estimate	Elements	Comment
G5	Winchite	0.10%	Na, Mg, Si, K, Ca, Fe	Libby Amphibole Asbestos
			ItemType ItemNum	Confirmed Comment
			Spectra J63557SP	KM 4/9/2021
			Diffraction J63557DF	KM 4/9/2021 0.53nm ROW SPACING
			Brightfield J63557BF	
G5	None Detect (Regulated Asbestos)	0.00%		
G6	Winchite	0.10%		Winchite
G6	None Detect (Regulated Asbestos)	0.00%		

Reviewed by:

Kate March

Kate March
Quality Control Officer

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 210349

Report Number: 210349R01

Client: PBS Engineering + Environmental

Report Date: 4/28/2021

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Early Childhood Education

Project No.: 40535.488

PO Number:

Sub Project:

Reference No.:

While no Regulated Asbestos was detected in this sample, potential Libby Amphibole Asbestos (LAA) was detected. Libby Amphibole Asbestos has been classified by the EPA as hazardous to human health, please reference https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=1026

Report Note: for more information on the LAA classification.

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

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
210349 - S1	40535.488-4/27/21-TEM-1 - Room 283 West Wall on Beam Above Ceiling	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		4/27/2021


ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

Sincerely,


 X
Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210349 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Early Childhood Education

Report Number: 210349R01
Date Received: 4/27/2021

Lab/Cor Sample No: S1
Client Sample No: 40535.488-4/27/21-TEM-1
Description: Room 283 West Wall on Beam Above Ceiling

Container Weight	13.63980 g	Hydrolysis Filter PreWeight	13.67933 g
Weight Before Ash	13.72960 g	Filter Post Hydrolysis	13.71842 g
Orig Sample Weight	0.08980 g	After Hydrolysis Weight	0.03909 g
Weight After Ash	13.71379 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.07399 g	Hydrolysis Adjusted Weight	0.03944 g
Percent Organics	17.61%	Begin Volume	20 ml
		Acid Solubles	38.48%

Grid	Analyte	Visual Estimate	Elements	Comment
G7	Winchite	0.10%	Na, Mg, Al, Si, K, Ca, Fe	
			ItemType ItemNum	Confirmed Comment
			Diffraction F63682DF	SH 4/28/2021 0.53nm ROW SPACING
			Spectra F63682SP	SH 4/28/2021
			Brightfield F63682BF	
G7	None Detect (Regulated Asbestos)	0.00%		
G8	Winchite	0.10%	Na, Mg, Si, K, Ca, Fe	
G8	None Detect (Regulated Asbestos)	0.00%		

Reviewed by:

Kate March

Kate March
Quality Control Officer

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 210536

Client: PBS Engineering + Environmental

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Olympic South Abatement and Repairs

Project No.: 40535.488

PO Number:

Sub Project:

Reference No.:

Report Number: 210536R01

Report Date: 6/18/2021

While no Regulated Asbestos was detected in these samples, potential Libby Amphibole Asbestos (LAA) was detected in one of them. Libby Amphibole Asbestos has been classified by the EPA as hazardous to human health, please reference https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=1026 for more information on

Report Note: the LAA classification.

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

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
210536 - S1	40535.488-6/17/21-TEM-1 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		6/17/2021
210536 - S2	40535.488-6/17/21-TEM-2 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		6/17/2021


ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X **Sierra Hinkle**
 Technician/Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210536 SEA
 Client: PBS Engineering + Environmental
 Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 210536R01
 Date Received: 6/17/2021

Lab/Cor Sample No.: S1
 Client Sample No.: 40535.488-6/17/21-TEM-1
 Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	6/18/2021	Hitachi 7000FA	20000

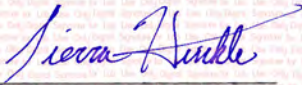
Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	42.31%
Total Regulated Asbestos Percent	ND*	Organics	21.91%
		Residue	35.78%
		Total Other Non-Asbestos Percent	100.00%

Lab/Cor Sample No.: S2
 Client Sample No.: 40535.488-6/17/21-TEM-2
 Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	6/18/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	32.14%
Winchite	Trace	Organics	18.27%
Total Regulated Asbestos Percent	ND*	Residue	49.55%
		Total Other Non-Asbestos Percent	99.95%

Reviewed by:


 X _____
 Sierra Hinkle
 Technician/Analyst

ND* - None Detected
 Regulated Asbestos - Chrysotile, Actinolite, Tremolite, Amosite, Crocidolite, Anthophyllite

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210536 **SEA** **Report Number:** 210536R01
Client: PBS Engineering + Environmental **Date Received:** 6/17/2021
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1
Client Sample No: 40535.488-6/17/21-TEM-1
Description:

Container Weight	13.48536 g	Hydrolysis Filter PreWeight	13.52648 g
Weight Before Ash	13.57800 g	Filter Post Hydrolysis	13.55938 g
Orig Sample Weight	0.09264 g	After Hydrolysis Weight	0.03290 g
Weight After Ash	13.55770 g	Hydrolysis Aliquot	19.85 ml
Particulate After Ash	0.07234 g	Hydrolysis Adjusted Weight	0.03315 g
Percent Organics	21.91%	Begin Volume	20 ml
		Acid Solubles	42.31%

Grid	Analyte	Visual Estimate	Elements	Comment
G5	None Detect (Regulated Asbestos)	0.00%		
G6	None Detect (Regulated Asbestos)	0.00%		

Lab/Cor Sample No: S2
Client Sample No: 40535.488-6/17/21-TEM-2
Description:

Container Weight	13.50352 g	Hydrolysis Filter PreWeight	13.54654 g
Weight Before Ash	13.66979 g	Filter Post Hydrolysis	13.62839 g
Orig Sample Weight	0.16627 g	After Hydrolysis Weight	0.08185 g
Weight After Ash	13.63942 g	Hydrolysis Aliquot	19.85 ml
Particulate After Ash	0.13590 g	Hydrolysis Adjusted Weight	0.08247 g
Percent Organics	18.27%	Begin Volume	20 ml
		Acid Solubles	32.14%

Grid	Analyte	Visual Estimate	Elements	Comment
G5	Winchite	0.10%	Na, Mg, Si, K, Ca, Fe	Libby Amphibole Asbestos
G5	None Detect (Regulated Asbestos)	0.00%		
G6	None Detect (Regulated Asbestos)	0.00%		

Reviewed by:

Sierra Hinkle
 X
Sierra Hinkle
 Technician/Analyst

APPENDIX C

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>
40535.488	-Pb01 Tan / Gypsum wallboard / Wall	North entrance by 183	<53	<0.0053	NVL
40535.488	-Pb02 Blue / Metal / Door frame	Outside room 180	2800	0.28	NVL
40535.488	-Pb03 Tan / Concrete / Column	Hall by room 168	<54	<0.0054	NVL
40535.488	-Pb04 Blue / Gypsum wallboard / Wall	Northeast corner of room 161	<49	<0.0049	NVL
40535.488	-Pb05 Gray / Concrete / Column	Southwest corner of room 265	<100	<0.010	NVL
40535.488	-Pb06 Tan / Metal / Door	Entrance to 284	<170	<0.017	NVL
40535.488	-Pb07 White / Gypsum wallboard / Wall	North wall 285A	<54	<0.0054	NVL
40535.488	-Pb08 Tan / Gypsum wallboard / Wall	Wall of room 328	<68	<0.0068	NVL

June 22, 2021

Claire Tsai

PBS Environmental - Seattle

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



NVL Batch # 2111057.00

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

Client Project: 40535.488

Location: Pierce College Olympic South Abatement and Repairs

Dear Ms. Tsai,

NVL Labs received 8 sample(s) for the said project on 6/21/2021. 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 'Nick Ly'.

Nick Ly, Technical Director



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 #: 2111057.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 40535.488
Date Received: 6/21/2021
Samples Received: 8
Samples Analyzed: 8

Attention: Ms. Claire Tsai

Project Location: Pierce College Olympic South Abatement and Repairs

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
21074044	40535.488-Pb01	0.1889	53	< 53	<0.0053
21074045	40535.488-Pb02	0.1951	51	2800	0.28
21074046	40535.488-Pb03	0.1855	54	< 54	<0.0054
21074047	40535.488-Pb04	0.2051	49	< 49	<0.0049
21074048	40535.488-Pb05	0.0994	100	< 100	<0.010
21074049	40535.488-Pb06	0.0585	170	< 170	<0.017
21074050	40535.488-Pb07	0.1840	54	< 54	<0.0054
21074051	40535.488-Pb08	0.1476	68	< 68	<0.0068

Sampled by: Client

Analyzed by: Shalini Patel

Reviewed by: Nick Ly

Date Analyzed: 06/22/2021

Date Issued: 06/22/2021

A handwritten signature in black ink, appearing to read 'Nick Ly', is written over a horizontal line.

Nick Ly, Technical Director

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: 2021-0622-02

FAA-02

LEAD LABORATORY SERVICES



Company PBS Environmental - Seattle	NVL Batch Number 2111057.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Ms. Claire Tsai	Rush TAT
Phone (206) 233-9639	Due Date 6/22/2021 Time 11:30 AM
	Email claire.tsai@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement and Repairs

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	21074044	40535.488-Pb01	A
2	21074045	40535.488-Pb02	A
3	21074046	40535.488-Pb03	A
4	21074047	40535.488-Pb04	A
5	21074048	40535.488-Pb05	A
6	21074049	40535.488-Pb06	A
7	21074050	40535.488-Pb07	A
8	21074051	40535.488-Pb08	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	6/21/21	1130
Analyzed by	Shalini Patel		NVL	6/22/21	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 6/21/2021
 Time: 12:00 PM
 Entered By: Kelly AuVu

APPENDIX D

Previous Survey Reports

- Olympic South Building Minor Music Improvements Project (May 2016)
- Olympic Building Early Childhood Education Center Renovations (March 2020)
- Olympic Building Partial Reclad and Roof Replacement (March 2020)



Engineering +
Environmental
Est. 1982

May 17, 2016

Mr. Jim Taylor
Pierce College Fort Steilacoom
9401 Farwest Drive SW
Lakewood, WA 98498

**RE: Pierce College Fort Steilacoom – Olympic South Building
Music-Minor Improvements Project
Limited Hazardous Material Investigation Summary
PBS Project #40535.289**

Dear Mr. Taylor:

PBS Engineering and Environmental, Inc. (PBS) performed a limited investigation of the Olympic South Building for the Minor Music Improvements Project at Pierce College Fort Steilacoom, Lakewood, Washington to determine the presence of asbestos-containing materials (ACM) and lead-containing paints (LCP). The intent of this letter is to ensure compliance with the Puget Sound Clean Air Agency (PSCAA) and Washington State Department of Labor and Industries' requirement that a "good faith inspection" for ACMs be performed prior to renovation/demolition activities.

Building Description

The Pierce College Olympic South Building was originally constructed in 1976. The original Level 1 is 11,200 sf and Level 2 is 15,000 sf in floor plan area. The work scope area includes level 2 of the Arts and Music Wing. Interior wall finishes include gypsum wallboard walls. Ceilings consist of 2' x 4' ceiling tiles, 12" x 12" glued on ceiling tiles, and gypsum wall board ceilings. Floors are typically carpeting, vinyl floor tile and exposed concrete or ceramic tile in the restrooms. The wall cavity has metal framing and fiberglass insulation with a gypsum wallboard finish on the building interior walls.

Survey Process

PBS inspected areas of the Olympic South Building expected to be impacted by the scope of the Music Improvements project. The work scope was verbally provided by McGranahan Architects during a field walk of the site. It is PBS' understanding that the scope of work at this facility includes replacement of the existing floor coverings, ceiling tile systems, demolition to portions of two walls located in rooms 0270 and 0271, and removal of soundboard materials throughout.

All accessible areas of the planned work scope area was inspected by AHERA Certified Building Inspector Grant Baker (Certification #155037, expiration 1/12/17) on March 16th, 2016. When observed suspect-ACMs were sampled, assigned a unique identification number and transmitted for analysis to Asbestos Northwest LLC (NVLAP #200993-0) under chain-of-custody protocols.

Bandon | Bend | Boise | Eugene | Portland | Seattle | Tri-Cities | Vancouver

2517 Eastlake Avenue East, Suite 100, Seattle, WA 98102
206.233.9639 Main
206.762.4780 Fax
www.pbsenv.com

Samples were analyzed according to EPA Method 600/M4-82-020 and 600R-93/116 using Polarized Light Microscopy (PLM), which has a reliable limit of quantification of 1% asbestos by volume.

Asbestos-Containing Materials (ACM)

The attached Asbestos Bulk Sample Inventory identifies all suspect materials that were sampled within the anticipated area of work and analyzed for asbestos. The following materials were found to contain asbestos:

- Pink sink undercoat material in Room 0285A (2% Chrysotile)
(Quantity – 1 each)
- White mastic on the HVAC duct systems in the ceiling (10% Chrysotile)
(Quantity –throughout on seams)
- Glue dots underneath 12"x12" acoustical ceiling tiles (2% Chrysotile)
(Quantity - 1,311 SF)

The following materials within the anticipated area of work were found not to contain asbestos include:

- Brown fireproofing debris
- White 12"x12" VFT and associated black mastic
- Brown vinyl threshold
- Tan cove base and associated tan mastic
- Black cove base and associated tan mastic
- Brown cove base mastic
- Yellow mastic associated with foam sound material
- Tan carpet glue
- Brown carpet glue
- Gray and red mastics on HVAC systems in ceiling
- Brown fabric on accordion door
- White 2'x2' drop ceiling tile
- White 12"x12" ceiling tile
- Gypsum wallboard and associated joint compound and tape,

Caution should be exercised during construction, as ACM may exist in various concealed locations. Any material not previously identified in this survey should be sampled to determine its asbestos content prior to impact. Work that may impact asbestos should only be performed by personnel having proper training and utilizing proper worker protection according to WISHA standards. Work impacting asbestos is subject to the requirements of various regulations, including, but not limited to: 40 CFR Part 61, NESHAPS; 40 CFR Part 763, AHERA; WAC 296-62 and 296-65; and Puget Sound Clean Air Agency Regulation III, Article 4, Asbestos Control Standard.

Lead-Containing Paint (LCP)

Three (3) representative paint coatings from interior components was sampled for lead content. The sample was assigned a unique identification number and transmitted for analysis to NVL Laboratories, Inc. (NVLAP #102063) under chain-of-custody protocols. PBS paint samples are analyzed using Flame Atomic Absorption Lead Analysis.

The samples collected were determined to contain lead in concentrations ranging from 0.0003% to 0.09%. For sample location and lab results see attached lead laboratory report.

Painted coatings may exist in inaccessible areas of the building or in secondary coatings on building components. These may consist of standard interior paint on walls/floors/ceilings, in wall and ceiling cavities or mechanical chases, or coatings on structural steel. Any previously unidentified painted coatings should be considered lead containing until sampled and proven otherwise.

Impact of any detectable concentrations of lead requires construction activities to be performed according to Washington Labor and Industries regulations for Lead in Construction (WAC 296-155-176). Workers and personnel impacting LCP should be provided the proper personal protective equipment and use proper work methods to limit occupational and environmental exposure to lead until an initial exposure assessment has been conducted.

Please let us know if you have any questions regarding this report.

Report prepared by:
PBS Engineering and Environmental, Inc.

A handwritten signature in blue ink that reads "Gregg Middaugh". The signature is written in a cursive style.

Gregg Middaugh
Senior Project Manager

Attachments: PLM Asbestos Sample Inventory
Lead Sample Inventory
Lab Reports
PBS Inspector Certifications

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>
40535.289 -MI-01	Brown fire proofing debris	Hallway above ceiling outside of Room 02	Layer 1: Gray fibrous material	NAD	AN
40535.289 -MI-02	Brown fire proofing debris	Hallway above ceiling outside of Room 02	Layer 1: Gray fibrous material	NAD	AN
40535.289 -MI-03	Brown fire proofing debris	Hallway above ceiling outside of Room 02	Layer 1: Gray fibrous material	NAD	AN
40535.289 -MI-04	Brown fire proofing debris	Hallway above ceiling outside of Room 02	Layer 1: Gray fibrous material	NAD	AN
40535.289 -MI-05	Brown fire proofing debris	Hallway above ceiling outside of Room 02	Layer 1: Gray fibrous material		
40535.289 -MI-06	White 12"x12" vinyl floor tile Black mastic	Room 0283	Layer 1: Beige tile Layer 2: Black mastic	NAD NAD	AN
40535.289 -MI-07	White 12"x12" vinyl floor tile Black mastic	Room 0283	Layer 1: White tile Layer 2: Black mastic	NAD NAD	AN
40535.289 -MI-08	Threshold - Brown vinyl	Room 0284	Layer 1: Brown rubbery material Layer 2: Yellow mastic	NAD NAD	AN
40535.289 -MI-09	Pink sink undercoat	Room 0285	Layer 1: Pink semi rubbery material	2% Chrysotile	AN
40535.289 -MI-10	Tan cove base Tan mastic	Room 0275	Layer 1: Tan rubbery material Layer 2: Tan mastic	NAD NAD	AN
40535.289 -MI-11	Black cove base Tan mastic	Hallway by Room 0291	Layer 1: Black rubbery material Layer 2: Tan mastic	NAD NAD	AN
40535.289 -MI-12	Brown cove base mastic	Art Gallery wall	Layer 1: Brown rubbery material Layer 2: Tan mastic	NAD NAD	AN
40535.289 -MI-13	Yellow mastic	Foam sound material, Room 0270	Layer 1: Black foam Layer 2: White mastic	NAD NAD	AN
40535.289 -MI-14	Tan carpet glue	Hallway by Room 0275	Layer 1: Tan mastic	NAD	AN
40535.289 -MI-15	Brown carpet glue	Room 0273	Layer 1: Brown mastic	NAD	AN
40535.289 -MI-16	Tan carpet glue	Hallway by Art Gallery	Layer 1: Tan mastic	NAD	AN
40535.289 -MI-17	White mastic	HVAC above ceilings	Layer 1: White/gray mastic Layer 2: Silver foil Layer 3: White woven fibrous material	10% Chrysotile NAD NAD	AN
40535.289 -MI-18	Gray mastic	HVAC above ceilings	Layer 1: Gray mastic Layer 2: White woven fibrous material	NAD NAD	AN

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>
40535.289 -MI-19	Red mastic	HVAC above ceilings	Layer 1: Red mastic Layer 2: Silver foil Layer 3: White woven fibrous material	NAD NAD NAD	AN
40535.289 -MI-20	Brown fabric	Accordion Door, Room 0284	Layer 1: Brown woven fibrous material	NAD	AN
40535.289 -MI-21	Brown carpet glue	Room 2078	Layer 1: Yellow mastic	NAD	AN
40535.289 -MI-22	Brown carpet glue	Room 0284, stair steps	Layer 1: Yellow mastic	NAD	AN
40535.289 -MI-23	White 2'x2' drop in ceiling tile	Room 0292	Layer 1: Gray fibrous material w/paint	NAD	AN
40535.289 -MI-24	White 2'x2' drop in ceiling tile	Room 0292	Layer 1: Gray fibrous material w/paint	NAD	AN
40535.289 -MI-25	2'x4' drop in ceiling tile	Hallway by Room 0286	Layer 1: Gray fibrous material w/paint	NAD	AN
40535.289 -MI-26	2'x4' drop in ceiling tile	Hallway by Room 0281	Layer 1: Gray fibrous material w/paint	NAD	AN
40535.289 -MI-27	12"x12" white ceiling tile w/glue dots	Room 0276	Layer 1: Gray fibrous material w/paint Layer 2: Brown mastic	NAD 2% Chrysotile	AN
40535.289 -MI-28	12"x12" white ceiling tile w/glue dots	Room 0272	Layer 1: Gray fibrous material w/paint Layer 2: Brown mastic	NAD 2% Chrysotile	AN
40535.289 -MI-29	Gypsum wallboard	Hallway by Room 0281	Layer 1: White powdery material w/paint Layer 2: White chalky material w/paper	NAD NAD	AN
40535.289 -MI-30	Gypsum wallboard	Room 0283 A	Layer 1: White chalky material w/paper	NAD	AN
40535.289 -MI-31	Gypsum wallboard	Room 0284	Layer 1: White powdery material w/paper Layer 2: White chalky material w/paper	NAD NAD	AN
40535.289 -MI-32	Joint compound Gypsum wallboard	Room 0275	Layer 1: White powdery material w/paint & paper Layer 2: White chalky material w/paper	NAD NAD	AN
40535.289 -MI-33	Joint compound Gypsum wallboard	Room 0283	Layer 1: White powdery material w/paper Layer 2: White chalky material w/paper	NAD NAD	AN
40535.289 -MI-34	Joint compound Gypsum wallboard	Room 0272	Layer 1: White powdery material w/paint & paper Layer 2: White chalky material w/paper	NAD NAD	AN
40535.289 -MI-35	Joint compound Gypsum wallboard	Room 0292	Layer 1: White powdery material w/paint & paper Layer 2: White chalky material w/paper	NAD NAD	AN
40535.289 -MI-36	Joint compound Gypsum wallboard	Art Gallery by Room 0267	Layer 1: White powdery material w/paint & paper Layer 2: White chalky material w/paper	NAD NAD	AN

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>
40535.289 -MI-37	Joint compound Gypsum wallboard	Room 0278	Layer 1: White powdery material w/paint & paper Layer 2: White chalky material w/paper	NAD NAD	AN
40535.289 -MI-38	Joint compound Gypsum wallboard	Room 0275	Layer 1: White powdery material w/paint & paper Layer 2: White chalky material w/paper	NAD NAD	AN

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>
40535.289 -Pb-01	Dark Brown/metal	Room 0284; Door Frame	976.0	0.0976	FA
40535.289 -Pb-02	Tan/metal	Room 0276; Door Frame	57.4	0.0057	FA
40535.289 -Pb-03	Tan/concrete	Hallway Column by Room 0264	3.2	0.0003	FA



NVLAP

200993-0

30620 Pacific Hwy S, #103,
Federal Way, WA 98003
(253) 941-4343

Attn: Grant Baker

Enclosed please find the analytical report for one or more samples submitted for analysis by Polarized Light Microscopy.

The samples were analyzed in accordance with EPA method 600/R-93/116 and 600/M4-82-020. The analyst used a stereomicroscope to visually inspect the sample to determine homogeneity and material descriptions. The sample was then viewed under the polarized light microscope to determine the presence and percentage of asbestos and non-asbestos fibers.

The limit of detection for PLM 600/R-93/116 is approximately 1%. The EPA recommends that samples found to have asbestos percentages 1%-10% be point counted to acquire a more accurate percentage. We provide 400 point counts and 1000 point counts. The limits of detection are 0.25% and 0.10% respectively.

After analysis is complete, all paperwork will be filed together, and kept in a secure locked filing cabinet away from other clients and laboratory staff. Asbestos Northwest ensures that the files will not be tampered with at any time, and will be removed from the filing cabinet only if the client requests a modification on the report or re-analysis. If you have any concerns or comments, feel free to contact Asbestos Northwest.

Thank you,

Cathy Butler

-These results are only applicable to the samples enclosed, and may not be reproduced, except in full, without the approval of the laboratory. This report may not be used to claim product endorsement by NVLAP, NIST, or any other agency.-



Project: PIERCE COLLEGE MUSIC IMPROVEMENTS

Project #: 40535.289

Analysis requested: PLM

Date: 3/16/16

Relinq'd by/Signature: [Signature]

Date/Time: 3/16/16

Received by/Signature: [Signature]

Date/Time: 3-17-16 8:30 am

Fax results to:

- Brian Stanford
- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Ferman Fletcher
- Prudy Stoudt-McRae
- Grant Baker
- Janet Murphy
- Harry Goren
- David Toy
- Mike Smith
- Chuck Greeb
- Christine Rmah

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours
- 24 Hours
- 48 Hours
- 8-5 Days
- Other _____

Report composite results for GWB/joint compound samples only

BULK SAMPLE DATA FORM				
Lab #	Sample #	Material	Location	Lab
	MI-01	BROWN FIRE PROOFING DEBRIS	HALLWAY ABOVE CEILING OUT	
	MI-02		SIDE OF ROOMS 0283-	
	MI-03		0284-0285	
	MI-04			
	MI-05			
	MI-06	WHITE 12"X12" VFT/BLACK MASTIC	ROOM 0283	
	MI-07			
	MI-08	THRESHOLD - BROWN VINYL	ROOM 0284	
	MI-09	PINK SINK UNDER COAT	ROOM 0285 A	
	MI-10	TAN Cove base/TAN MASTIC	ROOM 0275	
	MI-11	Black Cove base/TAN MASTIC	HALLWAY BY RM 0291	
	MI-12	BROWN Cove base MASTIC	ART GALLERY WALL	
	MI-13	YELLOW MASTIC	FOAM SOUND MATERIAL RM 0290	
	MI-14	TAN CPT GLUE	HALLWAY BY RM 0275	
	MI-15	BROWN CPT GLUE	RM 0273	
	MI-16	TAN CPT GLUE	HALLWAY BY ART GALLERY	
	MI-17	WHITE MASTIC	HVAC ABOVE CEILING	
	MI-18	GRAY MASTIC		
	MI-19	RED MASTIC		
	MI-20	BROWN FABRIC	ACCORDION DOOR RM 0284	

Project: PIERCE COLLEGE MUSIC IMPROVEMENTS

Project #: 40535-289

Analysis requested: PLM

Date: 3/16/16

Relinqu'd by/Signature: [Signature]

Date/Time: 3/16/16

Received by/Signature: _____

Date/Time: _____

Fax results to:

- | | | |
|--|---|--|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Ferman Fletcher | <input type="checkbox"/> David Toy |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Mike Smith |
| <input checked="" type="checkbox"/> Gregg Middaugh | <input checked="" type="checkbox"/> Grant Baker | <input type="checkbox"/> Chuck Greeb |
| <input type="checkbox"/> Mark Hiley | <input type="checkbox"/> Janet Murphy | <input checked="" type="checkbox"/> Christine Rmah |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Harry Goren | |

TURN AROUND TIME:

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

Report composite results for GWB/joint compound samples only

BULK SAMPLE DATA FORM				
Lab #	Sample #	Material	Location	Lab
	MI-21	BROWN CPT Glue	RM 0278	
	MI-22	BROWN CPT Glue	RM 0284 - STAIRS STEPS	
	MI-23	WHITE 2'X2' Drop-in	RM 0292	
	MI-24	CEILING TILE	RM 0292	
	MI-25	2X4 Drop-in CEILING TILE	HALLWAY BY RM 0286	
	MI-26	↓	HALLWAY BY RM 0281	
	MI-27	12"X12" WHITE CEILING TILE	RM 0276	
	MI-28	WITH Glue DOTS	RM 0272	
	MI-29	Gypsum wall board	HALLWAY BY RM 0281	
	MI-30	↓	RM 0283A	
	MI-31	↓	RM 0284	
	MI-32	JOINT COMPOUND / GWB	RM 0275	
	MI-33	↓	RM 0283	
	MI-34	↓	RM 0272	
	MI-35	↓	RM 0292	
	MI-36	↓	ART Gallery BY RM 0268	
	MI-37	↓	RM 0278	
	MI-38	↓	RM 0275	

PLM Analysis by EPA Method 600/M4-82-020 and 600/R-93/116

Attn: Grant Baker
 PBS Environmental
 2517 Eastlake Ave, E Suite 100 Seattle, WA 98102

Date Received: 3/17/2016
 Date Analyzed: 3/17/2016
 Samples Received: 38
 Samples Analyzed: 38

Project: Pierce College Music Improvement

Project #: 40535

Client Sample ID	Lab Sample ID	Layer	Description	Matrix	% Non-Asbestos Fibers	% Asbestos Fibers
MI-01		1	Gray fibrous material	Filler	80% Cellulose, Glass fibers	None Detected
MI-02		1	Gray fibrous material	Filler	80% Cellulose, Glass fibers	None Detected
MI-03		1	Gray fibrous material	Filler	80% Cellulose, Glass fibers	None Detected
MI-04		1	Gray fibrous material	Filler	80% Cellulose, Glass fibers	None Detected
MI-05		1	Gray fibrous material	Filler	80% Cellulose, Glass fibers	None Detected
MI-06		1	Beige tile	Vinyl/binder, Mineral grains	2% Cellulose,	None Detected
		2	Black mastic	Mastic/binder	3% Cellulose	None Detected
MI-07		1	White tile	Vinyl/binder, Mineral grains	2% Cellulose	None Detected
		2	Black mastic	Mastic/binder	3% Cellulose	None Detected
MI-08		1	Brown rubbery material	Rubber/binder	None Detected	None Detected
		2	Yellow mastic	Mastic/binder	2% Cellulose	None Detected
MI-09		1	Pink semi rubbery material	Vinyl/binder, Mineral grains	1% Cellulose	2% Chrysotile
MI-10		1	Tan rubbery material	Rubber/binder	None Detected	None Detected
		2	Tan mastic	Mastic/binder	2% Cellulose	None Detected

Cathy Butler

Dan Lafley

PLM Analysis by EPA Method 600/M4-82-020 and 600/R-93/116

Attn: Grant Baker
PBS Environmental
2517 Eastlake Ave, E Suite 100 Seattle, WA 98102

Date Received: 3/17/2016
Date Analyzed: 3/17/2016
Samples Received: 38
Samples Analyzed: 38

Project: Pierce College Music Improvement

Project #: 40535

Client Sample ID	Lab Sample ID	Layer	Description	Matrix	% Non-Asbestos Fibers	% Asbestos Fibers
MI-11		1	Black rubbery material	Rubber/binder	None Detected	None Detected
		2	Tan mastic	Mastic/binder	2% Cellulose	None Detected
MI-12		1	Brown rubbery material	Rubber/binder	None Detected	None Detected
		2	Tan mastic	Mastic/binder	2% Cellulose	None Detected
MI-13		1	Black foam	Foam	None Detected	None Detected
		2	White mastic	Mastic/binder	2% Cellulose	None Detected
MI-14		1	Tan mastic	Mastic/binder	2% Cellulose	None Detected
MI-15		1	Brown mastic	Mastic/binder	2% Cellulose	None Detected
MI-16		1	Tan mastic	Mastic/binder	2% Cellulose	None Detected
MI-17		1	White/gray mastic	Mastic/binder	2% Cellulose	10% Chrysotile
		2	Silver foil	Foil/binder	None Detected	None Detected
		3	White woven fibrous material	Filler, binder	70% Synthetic fibers	None Detected
MI-18		1	Gray mastic	Mastic/binder	2% Cellulose	None Detected
		2	White woven fibrous material	Filler, binder	70% Synthetic fibers	None Detected

Cathy Butler

Dan Lafley
 Reviewed By: Dan Lafley

PLM Analysis by EPA Method 600/M4-82-020 and 600/R-93/116

Attn: Grant Baker
PBS Environmental
2517 Eastlake Ave, E Suite 100 Seattle, WA 98102

Date Received: 3/17/2016
Date Analyzed: 3/17/2016
Samples Received: 38
Samples Analyzed: 38

Project: Pierce College Music Improvement

Project #: 40535

Client Sample ID	Lab Sample ID	Layer	Description	Matrix	% Non-Asbestos Fibers	% Asbestos Fibers
MI-19		1	Red mastic	Mastic/binder	2% Cellulose	None Detected
		2	Silver foil	Foil/binder	None Detected	None Detected
		3	White woven fibrous material	Filler, binder	70% Synthetic fibers	None Detected
MI-20		1	Brown woven fibrous material	Filler, binder	70% Cellulose	None Detected
M-21		1	Yellow mastic	Mastic/binder	3% Cellulose	None Detected
M-22		1	Yellow mastic	Mastic/binder	3% Cellulose	None Detected
M-23		1	Gray fibrous material with paint	Filler, Perlite, Paint	70% Glass fibers, Cellulose	None Detected
M-24		1	Gray fibrous material with paint	Filler, Perlite, Paint	70% Glass fibers, Cellulose	None Detected
M-25		1	Gray fibrous material with paint	Filler, Perlite, Paint	70% Glass fibers, Cellulose	None Detected
M-26		1	Gray fibrous material with paint	Filler, Perlite, Paint	70% Glass fibers, Cellulose	None Detected
M-27		1	Gray fibrous material with paint	Filler, Perlite, Paint	60% Glass fibers, Cellulose	None Detected
		2	Brown mastic	Mastic/binder	3% Cellulose	2% Chrysotile
MI-28		1	Gray fibrous material with paint	Filler, Perlite, Paint	60% Glass fibers, Cellulose	None Detected
		2	Brown mastic	Mastic/binder	3% Cellulose	2% Chrysotile
MI-29		1	White powdery material with paint	Binder/filler, Paint	10% Cellulose	None Detected

PLM Analysis by EPA Method 600/M4-82-020 and 600/R-93/116

Attn: Grant Baker
PBS Environmental
2517 Eastlake Ave, E Suite 100 Seattle, WA 98102

Date Received: 3/17/2016
Date Analyzed: 3/17/2016
Samples Received: 38
Samples Analyzed: 38

Project: Pierce College Music Improvement

Project #: 40535

Client Sample ID	Lab Sample ID	Layer	Description	Matrix	% Non-Asbestos Fibers	% Asbestos Fibers
		2	White chalky material with paper	Filler/binder, Gypsum/binder	20% Cellulose	None Detected
MI-30		1	White chalky material with paper	Filler/binder, Gypsum/binder	20% Cellulose	None Detected
MI-31		1	White powdery material with paint	Binder/filler, Paint	10% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected
MI-32		1	White powdery material with paint and paper	Binder/filler, Paint	20% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected
MI-33		1	White powdery material with paint	Binder/filler, Paint	10% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected
MI-34		1	White powdery material with paint and paper	Binder/filler, Paint	20% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected
MI-35		1	White powdery material with paint and paper	Binder/filler, Paint	20% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected

PLM Analysis by EPA Method 600/M4-82-020 and 600/R-93/116

Attn: Grant Baker
PBS Environmental
2517 Eastlake Ave, E Suite 100 Seattle, WA 98102

Date Received: 3/17/2016
Date Analyzed: 3/17/2016
Samples Received: 38
Samples Analyzed: 38
Project #: 40535

Project: Pierce College Music Improvement

Client Sample ID	Lab Sample ID	Layer	Description	Matrix	% Non-Asbestos Fibers	% Asbestos Fibers
MI-36		1	White powdery material with paint and paper	Binder/filler, Paint	20% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected
MI-37		1	White powdery material with paint and paper	Binder/filler, Paint	20% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected
MI-38		1	White powdery material with paint and paper	Binder/filler, Paint	20% Cellulose	None Detected
		2	White chalky material with paper	Filler/binder, Gypsum/binder	25% Cellulose	None Detected

Cathy Butler

Dan Lafley



3600 Fremont Ave. N.

Seattle, WA 98103

T: (206) 352-3790

F: (206) 352-7178

info@fremontanalytical.com

PBS Engineering & Environmental

Gregg Middaugh
2517 Eastlake Ave, E #100
Seattle, WA 98102

RE: Pierce College Music Improvements

Lab ID: 1603218

March 28, 2016

Attention Gregg Middaugh:

Fremont Analytical, Inc. received 3 sample(s) on 3/21/2016 for the analyses presented in the following report.

Total Metals by EPA Method 6020

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "Chelsea Ward", written in a cursive style.

Chelsea Ward
Project Manager



Date: 03/28/2016

CLIENT: PBS Engineering & Environmental
Project: Pierce College Music Improvements
Lab Order: 1603218

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1603218-001	MI-Pb-01	03/16/2016 12:00 AM	03/21/2016 9:30 AM
1603218-002	MI-Pb-02	03/16/2016 12:00 AM	03/21/2016 9:30 AM
1603218-003	MI-Pb-03	03/16/2016 12:00 AM	03/21/2016 9:30 AM

CLIENT: PBS Engineering & Environmental
Project: Pierce College Music Improvements

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

WO#: 1603218

Date Reported: 3/28/2016

CLIENT: PBS Engineering & Environmental
Project: Pierce College Music Improvements

Lab ID: 1603218-001

Collection Date: 3/16/2016

Client Sample ID: MI-Pb-01

Matrix: Miscellaneous Solid Materials -

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Total Metals by EPA Method 6020

Batch ID: 13283

Analyst: TN

Lead	976	4.08	D	mg/Kg	10	3/24/2016 2:08:18 PM
------	-----	------	---	-------	----	----------------------

Lab ID: 1603218-002

Collection Date: 3/16/2016

Client Sample ID: MI-Pb-02

Matrix: Miscellaneous Solid Materials -

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Total Metals by EPA Method 6020

Batch ID: 13283

Analyst: TN

Lead	57.4	0.606		mg/Kg	1	3/24/2016 2:22:29 PM
------	------	-------	--	-------	---	----------------------

Lab ID: 1603218-003

Collection Date: 3/16/2016

Client Sample ID: MI-Pb-03

Matrix: Miscellaneous Solid Materials -

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Total Metals by EPA Method 6020

Batch ID: 13283

Analyst: TN

Lead	3.16	0.417		mg/Kg	1	3/24/2016 2:26:01 PM
------	------	-------	--	-------	---	----------------------



Work Order: 1603218
CLIENT: PBS Engineering & Environmental
Project: Pierce College Music Improvements

QC SUMMARY REPORT
Total Metals by EPA Method 6020

Sample ID: MB-13283	SampType: MBLK	Units: mg/Kg	Prep Date: 3/23/2016	RunNo: 28401							
Client ID: MBLKS	Batch ID: 13283		Analysis Date: 3/24/2016	SeqNo: 533557							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.200

Sample ID: LCS-13283	SampType: LCS	Units: mg/Kg	Prep Date: 3/23/2016	RunNo: 28401							
Client ID: LCSS	Batch ID: 13283		Analysis Date: 3/24/2016	SeqNo: 533558							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 21.5 0.200 25.00 0 85.8 80 120

Sample ID: 1603207-004ADUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 3/23/2016	RunNo: 28401							
Client ID: BATCH	Batch ID: 13283		Analysis Date: 3/24/2016	SeqNo: 533560							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.47 0.175 6.620 12.1 20

Sample ID: 1603207-004AMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 3/23/2016	RunNo: 28401							
Client ID: BATCH	Batch ID: 13283		Analysis Date: 3/24/2016	SeqNo: 533564							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 27.6 0.173 21.69 6.620 96.8 75 125

Sample ID: 1603207-004AMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 3/23/2016	RunNo: 28401							
Client ID: BATCH	Batch ID: 13283		Analysis Date: 3/24/2016	SeqNo: 533565							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 26.6 0.175 21.85 6.620 91.3 75 125 27.60 3.84 20

Client Name: **PBS**
 Logged by: **Erica Silva**

 Work Order Number: **1603218**
 Date Received: **3/21/2016 9:30:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes No NA
- Bulk Material**
4. Shipping container/cooler in good condition? Yes No
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes No Not Required
6. Was an attempt made to cool the samples? Yes No NA
7. Were all items received at a temperature of >0°C to 10.0°C* Yes No NA
8. Sample(s) in proper container(s)? Yes No
9. Sufficient sample volume for indicated test(s)? Yes No
10. Are samples properly preserved? Yes No
11. Was preservative added to bottles? Yes No NA
12. Is there headspace in the VOA vials? Yes No NA
13. Did all samples containers arrive in good condition(unbroken)? Yes No
14. Does paperwork match bottle labels? Yes No
15. Are matrices correctly identified on Chain of Custody? Yes No
16. Is it clear what analyses were requested? Yes No
17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	Grant Baker	Date:	3/21/2016
By Whom:	Erica Silva	Via:	<input type="checkbox"/> eMail <input checked="" type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	Sampling date		
Client Instructions:	3/16/16		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	13.2

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Certificate of Completion

This is to certify that

Grant F. Baker

has satisfactorily completed
4 hours of refresher training as an

Asbestos Building Inspector

to comply with the training requirements of
TSCA Title II / 40 CFR 763 (AHERA)



Instructor
EPA Provider Certificate #1085

155037
Certificate #



Jan 13, 2016

Date(s) of Training

Exam Score: NA

Expiration Date: Jan 12, 2017

Limited Hazardous Materials Summary Report

Olympic Building Early Childhood Education
Center Renovations

Pierce College

9401 Farwest Drive Southwest
Lakewood, WA 98498

Prepared for:

State of Washington

Department of Enterprise Services

PO Box 41012

Olympia, WA 98504

March 23, 2020

PBS Project 40535.438



214 EAST GALER STREET

SUITE 300

SEATTLE, WA 98102

206.233.9639 MAIN

866.727.0140 FAX

PBSUSA.COM

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APPENDICES

APPENDIX A: PLM Bulk Sampling Information

PLM Bulk Sample Inventory

PLM Bulk Sample Laboratory Data Sheets and Chain of Custody Documentation

APPENDIX B: AA Lead Paint Chip Sampling Information

AA Lead Paint Chip Sample Inventory

AA Lead Paint Chip Laboratory Data Sheets and Chain of Custody Documentation

APPENDIX C: Certifications

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1 INTRODUCTION

1.1 Project Background

PBS Engineering and Environmental, Inc. (PBS) performed a survey of portions of the Early Childhood Education Center located in Olympic Building South at the Pierce College Fort Steilacoom Campus, to determine the presence of asbestos-containing materials (ACMs), lead-containing paints (LCP), mercury-containing components, and PCB-containing light fixture ballasts. The intent of this report is to ensure that Pierce College is in compliance with applicable regulatory requirements that a "good faith inspection" for ACMs be performed prior to renovation/demolition activities.

The project area was limited to the following rooms of the Olympic Building South: Rooms O160, O161, O162, O166 and O166A. These portions of the Early Childhood Education Center are to undergo renovations. The survey did not include any other areas in the Olympic Building.

1.2 Building Descriptions

The Olympic Building is a three-story, slab-on-grade structure. The exterior is accented with marblecrete, gypsum wallboard, and EIFS (Exterior Finish and Insulation). Interior finishes within the project areas include the following: floors consist of a concrete substrate covered with carpet, ceramic tile, or sheet vinyl with the exception of Room O160 which contains carpet on a wood substrate. Ceilings throughout consist of a suspended ceiling grid with 2'x4' lay-in ceiling tiles with the exception of Room O161 which contains a painted concrete deck. Walls are constructed of gypsum wallboard throughout. The room is heated via forced air which is supplied by ductwork routed overhead. Domestic water piping is routed through walls and ceiling spaces throughout.

1.3 Survey Process

All accessible areas were inspected by AHERA Certified Building Inspector Ferman Fletcher (Cert. No. 172753 Exp. 4/17/2020) on January 10, 2020. 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 in order to gain access.

When observed, suspect materials were sampled. All samples were assigned a unique identification number and transmitted for analysis to Seattle Asbestos Test (NVLAP #201057-0) 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. Information regarding the type and location of sampled materials can be found on the attached PLM Sample Inventory located in Appendix A.

Suspect ACMs may exist in inaccessible areas. PBS endeavored to determine the presence and estimate the condition of suspect materials in all inaccessible areas included in the scope of work. While PBS has endeavored to identify the ACMs that may be found in concealed locations, additional unidentified ACMs may exist. All building demolition activities should be performed cautiously to prevent impacts to concealed asbestos-containing materials.

2 FINDINGS

2.1 Asbestos-Containing Materials (ACMs)

The following materials were determined to contain greater than 1% asbestos:

- Felt backing associated with sheet vinyl flooring
 - Bottom layer beneath non-asbestos grey pebble pattern sheet flooring – Room O161 Sink Area (Northwest corner, Approx. 400 SF);
- Felt backing associated with brown pebble pattern sheet vinyl flooring – Room O161 Kitchen (Approx. 230 SF);
- White sink undercoat – Room O161 Kitchen (Double sink);
- Pink sink undercoat – Room O166A (Approx. 1 EA);
- Joint compound associated with gypsum wallboard
(Less than 1% via Lab Composite analysis see below) – Throughout.

Materials observed and found not to be asbestos-containing include:

- Carpet mastic – Throughout;
- Ceramic floor tile and associated grout and mortar – Room O161, Southwest corner;
- Ceramic wall tiles and associated mastic – Room O161, Southwest corner;
- Covebase and associated mastic – Throughout;
- 2'x4' Fissure Pattern Lay-in Ceiling Tiles – Throughout;
- Black Sink Undercoat – Room O161 Break Room (Northwest Corner);
- Window Putty (between frame and glass) – Interior windows throughout;
- Hard Mudded Fitting Insulation – Above suspended ceilings on fiberglass straight runs.

2.2 Lead-Containing Components

Five (5) 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 (EPA 3051/7000B).

The following painted coating was sampled and found to contain lead:

- Tan paint on interior metal window frames was found to contain 0.0160% lead;

The following painted coatings were sampled and found not to contain lead:

- Tan paint on gypsum wallboard walls;
- Blue paint on gypsum wallboard walls;
- Tan paint on concrete decking.

See Appendix B for locations and laboratory results of paint samples.

2.3 Mercury-Containing Components

All fluorescent light tubes are presumed to contain mercury. PBS counted the number of fluorescent tubes in the project area for the purposes of mercury vapor recovery prior to renovation activities. PBS observed approximately 80 mercury-containing light bulbs throughout the project area. Caution should be exercised during demolition to not break these bulbs.

2.4 PCB-Containing Components

Magnetic fluorescent light ballasts should be presumed to contain PCBs and properly removed, stored, transported and disposed of in accordance with Washington Administrative Code (WAC) 173-303 Dangerous Waste Regulations and 40 CFR Part 761 Subpart D.

PBS used a ballast checker to inspect representative fluorescent light fixture ballasts throughout the work areas. Approximately one (1) ballast was observed to be magnetic and therefore PCB-containing.

The possibility exists for the magnetic ballast to have failed and be leaking. Caution should be exercised during ballast inspection and removal. All ballast residues should be presumed to contain high concentrations of PCBs. Precautions should be taken when handling light fixtures with leaking ballasts.

3 RECOMMENDATIONS

The following is a summary of our conclusions and recommendations for asbestos, lead, PCBs, mercury, and other regulated metals.

3.1 ACMs

PBS recommends that all exposed and concealed ACMs to be impacted by the renovation/demolition activities be removed prior to construction activities. Any impacts to asbestos-containing materials should be performed by a qualified Washington State licensed asbestos abatement contractor. All impacts should be performed according to applicable Puget Sound Clean Air Authority (PSCAA), Washington Administrative Code 296-62-07, and CFR Chapter 40 Part 763 AHERA.

Joint compound mud and wallboard systems as a composite was found to contain less than 1% asbestos. Current regulations do not consider the wallboard/joint compound as a composite to be regulated asbestos material (less than 1% of asbestos). However, these regulations require various employee/worker compliance (for all trades) during impact of less than 1% of asbestos materials, which includes, and is not limited to, worker asbestos training, initial air monitoring, worker and environmental protection, engineering controls (such as the use of wet methods and HEPA vacuums for debris cleanup), and supervision by an asbestos "competent person."

The possibility exist that suspect ACMs may be present in equipment, wall and ceiling cavities, beneath concrete slabs and buried in site soils included in the scope of the work. These may include, but are not limited to waterproofing membrane, internal gaskets, pipe insulation, piping materials, caulking and sealants of HVAC equipment and construction adhesives and wall mastics. Additional suspect-ACMs may be present in concealed spaces. Caution should always be exercised during selective demolition to prevent impact of suspect-ACMs. All suspect ACMs should be presumed asbestos-containing until properly sampled and analyzed. In the event that suspect ACMs is uncovered during construction, contractors should stop work immediately and inform the owner promptly for confirmation testing.

3.2 Lead-Containing Components

Representative painted coatings from the project locations were found to contain lead by laboratory analysis. Impact of painted surfaces with detectable concentrations of lead requires construction activities to be performed according to Washington Labor and Industries regulations for Lead in Construction (WAC 296-155). Workers impacting LCP should be provided the proper personal protective equipment and use proper work methods to limit occupational and environmental exposure to lead until an initial exposure assessment has been conducted. Additionally, all impacts to lead-containing paint shall be in accordance with 40 CFR Part

745. Painted coatings may exist in inaccessible areas of the work area or in secondary coatings. Any previously unidentified painted coatings should be considered lead-containing until sampled and proven otherwise.

3.3 Mercury-Containing Components

Fluorescent lamps are known to contain mercury and mercury vapors. All fluorescent lamps at this site are presumed to be mercury-containing. PBS recommends that all fluorescent lamps be carefully handled and recycled/disposed of in accordance with the contract documents and applicable regulations during demolition activities. Breakage of lamps should be avoided to prevent potential exposures to mercury. Washington Department of Safety and Health requires specific training, handling, engineering controls and disposal practices when performing this work. All waste shall be handled in accordance with WAC 173-303.

3.4 PCB-Containing Components

PBS recommends all light ballasts be inspected prior to disposal. Magnetic ballasts, regardless of labeling, should be presumed to contain PCBs and properly removed, stored, transported and disposed of in accordance with Washington Administrative Code (WAC) 173-303 Dangerous Waste Regulations 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:
PBS Engineering and Environmental, Inc.,

Ferman Fletcher
AHERA Building Inspector
Cert. # 172753, expiration 4/17/2020

Report reviewed by: GM

APPENDIX A

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>
40535.438 -01	Carpet Tile Mastic	Lobby	Layer 1: Clear/yellow mastic Layer 2: Gray soft material	NAD NAD	SAT
40535.438 -02	Carpet Tile Mastic	Room O162	Layer 1: Yellow mastic	NAD	SAT
40535.438 -03	Carpet Tile Mastic	Room O166	Layer 1: Clear/yellow mastic	NAD	SAT
40535.438 -04	Carpet Mastic	Room O161; south end, center	Layer 1: Yellow mastic	NAD	SAT
40535.438 -05	Carpet Mastic	Room O161; southwest corner	Layer 1: Yellow mastic	NAD	SAT
40535.438 -06	Carpet Mastic	Room O160; west end	Layer 1: Yellow mastic	NAD	SAT
40535.438 -07	Beige Pebble Pattern Sheet Vinyl Flooring	Room O161 next to Room O166	Layer 1: Beige vinyl Layer 2: Gray fibrous material with mastic	NAD NAD	SAT
40535.438 -08	Beige Pebble Pattern Sheet Vinyl Flooring	Room O161; northwest corner	Layer 1: Beige vinyl Layer 2: Gray fibrous material with mastic	NAD NAD	SAT
40535.438 -09	Grey Pebble Pattern Sheet Vinyl Flooring (2 layers)	Room O161 Breakroom; southwest corner	Layer 1: Gray vinyl Layer 2: Gray fibrous material with mastic Layer 3: Beige vinyl Layer 4: Gray fibrous material with mastic	NAD NAD NAD 52% Chrysotile	SAT
40535.438 -10	Grey Pebble Pattern Sheet Vinyl Flooring (2 layers)	Room O161 Breakroom; northeast corner	Layer 1: Gray vinyl Layer 2: Gray fibrous material with mastic Layer 3: Beige vinyl Layer 4: Gray fibrous material with mastic	NAD NAD NAD 50% Chrysotile	SAT
40535.438 -11	Brown Pebble Pattern Sheet Vinyl Flooring	Room O161 Kitchen; next to exit door	Layer 1: Brown vinyl Layer 2: Gray fibrous material with trace mastic	NAD 50% Chrysotile	SAT
40535.438 -12	Brown Pebble Pattern Sheet Vinyl Flooring	Room O161 Kitchen; southwest corner	Layer 1: Brown vinyl Layer 2: Gray fibrous material with trace mastic	NAD 51% Chrysotile	SAT
40535.438 -13	Ceramic Floor Tile	Room O161; southwest corner, bathroom	Layer 1: Cream ceramic	NAD	SAT

**Pierce College: Olympic Bldg Early Childhood Education Center Renovations
WA Department of Enterprise Services**

**PBS Engineering + Environmental
PBS Project #40535.438**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
	Grout		Layer 2: Gray brittle/sandy material	NAD	
40535.438 -14	Ceramic Floor Tile Mortar	Room O161; southwest corner, bathroom	Layer 1: Gray brittle/sandy material	NAD	SAT
40535.438 -15	Ceramic Wall Tile	Room O161; southwest corner, bathroom	Layer 1: Tan ceramic	NAD	SAT
	Brown Mastic		Layer 2: White brittle/sandy material Layer 3: Brown/tan mastic	NAD NAD	
40535.438 -16	Tan Covebase Brown Covebase Mastic	Room O161; west wall	Layer 1: Tan rubbery material Layer 2: Brown mastic	NAD NAD	SAT
40535.438 -17	Dark Brown Covebase Brown Covebase Mastic	Room O160	Layer 1: Dark brown rubbery material Layer 2: Brown mastic	NAD NAD	SAT
40535.438 -18	Tan Covebase Covebase Mastic	Room O161; Breakroom, northwest corner	Layer 1: Tan rubbery material Layer 2: Yellow/brown mastic Layer 3: Tan powdery material with paint Layer 4: Brown paper	NAD NAD 2% Chrysotile NAD	SAT
40535.438 -19	Tan Covebase Covebase Mastic	Room O166; north wall	Layer 1: Tan rubbery material Layer 2: Trace yellow mastic Layer 3: Trace white powdery material with paint	NAD NAD NAD	SAT
40535.438 -20	Joint Compound Gypsum Wallboard	Room O160; south wall	Layer 1: Off-white powdery material with paint Layer 2: White powdery material with paper Layer 3: White chalky material with paper	2% Chrysotile 2% Chrysotile NAD <i>Composite <1%</i>	SAT
40535.438 -21	Joint Compound Gypsum Wallboard	Room O161; west wall	Layer 1: Off-white powdery material with paint Layer 2: White powdery material with paper Layer 3: White chalky material with paper	2% Chrysotile 2% Chrysotile NAD <i>Composite <1%</i>	SAT
40535.438 -22	Joint Compound Gypsum Wallboard	Room O161; Kitchen, northwest corner	Layer 1: Off-white powdery material with paint Layer 2: White powdery material with paper Layer 3: White chalky material with paper Composite Analysis Results	2% Chrysotile 2% Chrysotile NAD <i>Composite <1%</i>	SAT

Pierce College: Olympic Bldg Early Childhood Education Center Renovations
WA Department of Enterprise Services

PBS Engineering + Environmental
PBS Project #40535.438

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
40535.438 -23	Joint Compound Gypsum Wallboard	Room O166A; northwest corner	Layer 1: Off-white powdery material with paint Layer 2: White powdery material with paper Layer 3: White chalky material with paper	2% Chrysotile 2% Chrysotile NAD <i>Composite <1%</i>	SAT
40535.438 -24	2'x4' Fissure Pattern Lay-in Ceiling Tile	Room O160	Layer 1: Gray fibrous material with glass beads and paint	NAD	SAT
40535.438 -25	2'x4' Fissure Pattern Lay-in Ceiling Tile	Room O162	Layer 1: Gray fibrous material with glass beads and paint	NAD	SAT
40535.438 -26	2'x4' Fissure Pattern Lay-in Ceiling Tile	Room O166	Layer 1: Gray fibrous material with glass beads and paint	NAD	SAT
40535.438 -27	White Sink Undercoat	Room O161, Kitchen	Layer 1: White soft/loose material	3% Chrysotile	SAT
40535.438 -28	Black Sink Undercoat	Room O161; Breakroom; Upper sink	Layer 1: Black soft/loose material	NAD	SAT
40535.438 -29	Pink Sink Undercoat	Room O166A; north wall	Layer 1: Pink soft/loose material	3% Chrysotile	SAT
40535.438 -30	Interior Window Putty	Room O161; east wall	Layer 1: Black soft/elastic material with paint and debris	NAD	SAT
40535.438 -31	Interior Window Putty	Room O161; south wall	Layer 1: Black soft/elastic material with paint and debris	NAD	SAT
40535.438 -32	Interior Window Putty	Room O162; south wall	Layer 1: Black soft/elastic material with paint and debris	NAD	SAT
40535.438 -33	Hard Mudded Fitting Insulation	Room O162; above suspended ceiling	Layer 1: Off-white powdery material with woven fibrous material	NAD	SAT
40535.438 -34	Hard Mudded Fitting Insulation	Room O162; above suspended ceiling	Layer 1: Off-white powdery material with woven fibrous material	NAD	SAT
40535.438 -35	Hard Mudded Fitting Insulation	Room O162; above suspended ceiling	Layer 1: Off-white powdery material with woven fibrous material	NAD	SAT

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager: Ferman Fletcher

Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA
98102
Tel: 206.233.9639

Date Analyzed: 1/13/2020

Client Job#: 40535.438

Project Location: Pierce College: Olympic Bldg ECE
Renovations

Laboratory batch#: 202018997

Samples Received: 35

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.

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
President



202018997

Project: Pierce College: Olympic Bldg ECE Renovations

Project #: 40535.438

Analysis requested: PLM

Date: 1/13/20

Relinq'd by/Signature: *[Signature]*

Date/Time: 1/13/20

Received by/Signature: Yuiyang SAT

Date/Time: 1/13/20 @ 1330

E-mail results to:

- | | | |
|---|---|---|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Cel Alvarez | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input checked="" type="checkbox"/> Ferman Fletcher |
| <input type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Holly Tuttle |
| <input type="checkbox"/> Mark Hiley | <input type="checkbox"/> Martin Estira | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Justin Day | <input checked="" type="checkbox"/> Eman Jabali |
| <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Filmon Embaye | |

E-mail all invoices to: seattleap@pbsusa.com

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 | | |

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40535.438-01	Carpet Tile Mastic	Lobby	SAT
-02	"	Room 0162	
-03	"	Room 0166	
-04	Carpet Mastic	Room 0161; S. end, Center	
-05	"	Room 0161; SW corner	
-06	"	Room 0160; W. end	
-07	Beige Pebble Pattern Sheet Vinyl Flooring	Room 0161 next to Room 0166	
-08	"	Room 0161; NW corner	
-09	Grey Pebble Pattern Sheet Vinyl Flooring (2 layers)	Room 0161 Breakroom; SW corner	
-10	"	Room 0161 Breakroom; NE corner	
-11	Brown Pebble Pattern Sheet Vinyl Flooring	Room 0161 Kitchen; next to exit door	
-12	"	Room 0161 Kitchen; SW corner	
-13	Ceramic Floor Tile/Grout	Room 0161; SW corner, bathroom	
-14	Ceramic Floor Tile Mortar	Room 0161; SW corner, bathroom	
-15	Ceramic Wall Tile/Brown Mastic	Room 0161; SW corner, bathroom	
-16	Tan CB/Brown CB Mastic	Room 0161; W. Wall	
-17	Dark Brown CB/Brown CB Mastic	Room 0160	
-18	Tan CB/CB Mastic	Room 0161; Breakroom, NW Corner	
-19	Tan CB/CB Mastic	Room 0166; N. wall	



202018997

Project: Pierce College: Olympic Bldg ECE Renovations

Project #: 40535.438

Analysis requested: PLM

Date: 1/13/20

Relinquished by/Signature: [Signature]

Date/Time: 1/13/20

Received by/Signature: [Signature]

Date/Time: 1/13/20 @ 1330

E-mail results to:

- | | | |
|---|---|---|
| <input type="checkbox"/> Brian Stanford | <input type="checkbox"/> Cel Alvarez | <input type="checkbox"/> Mike Smith |
| <input type="checkbox"/> Willem Mager | <input type="checkbox"/> Janet Murphy | <input checked="" type="checkbox"/> Ferman Fletcher |
| <input type="checkbox"/> Gregg Middaugh | <input type="checkbox"/> Kaitlin Soukup | <input type="checkbox"/> Holly Tuttle |
| <input type="checkbox"/> Mark Hiley | <input type="checkbox"/> Martin Estira | <input type="checkbox"/> Ryan Hunter |
| <input type="checkbox"/> Tim Ogden | <input type="checkbox"/> Justin Day | <input checked="" type="checkbox"/> Eman Jabali |
| <input type="checkbox"/> Prudy Stoudt-McRae | <input type="checkbox"/> Filmon Embaye | |

E-mail all invoices to: seattleap@pbsusa.com

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 | | |

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40535.438-20	JC/GWB (Composite analysis requested if applicable)	Room O160; S. wall	SAT
-21	"	Room O161; W. wall	
-22	"	Room O161; Kitchen, NW corner	
-23	"	Room O166A; NW corner	
-24	2'x4' Fissure Pattern LICT	Room O160	
-25	"	Room O162	
-26	"	Room O166	
-27	White Sink Undercoat	Room O161, Kitchen	
-28	Black Sink Undercoat	Room O161; Breakroom; Upper sink	
-29	Pink Sink Undercoat	Room O166A; N. Wall	
-30	Interior Window Putty	Room O161; E. wall	
-31	"	Room O161; S. wall	
-32	"	Room O162; S. wall	
-33	Hard Mudded Fitting Insulation	Room O162; above suspended ceiling	
-34	"	Room O162; above suspended ceiling	
-35	"	Room O162; above suspended ceiling	


SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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 by Method EPA/600/R-93/116

Attn.: Ferman Fletcher Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.438 Batch#: 202018997 Date Received: 1/13/2020
 Samples Rec'd: 35 Date Analyzed: 1/15/2020 Samples Analyzed: 35
 Project Loc.: Pierce College: Olympic Bldg ECE Renovations

Analyzed by:  Yui Yang/Cassie Huang

Reviewed by:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.438-01	1	Clear/yellow mastic		None detected	Mastic/binder	4	Synthetic fibers, Cellulose
		2	Gray soft material		None detected	Filler, Binder	2	Cellulose
2	40535.438-02	1	Yellow mastic		None detected	Mastic/binder	5	Synthetic fibers, Cellulose
3	40535.438-03	1	Clear/yellow mastic		None detected	Mastic/binder	5	Synthetic fibers, Cellulose
4	40535.438-04	1	Yellow mastic		None detected	Mastic/binder	4	Synthetic fibers, Cellulose
5	40535.438-05	1	Yellow mastic		None detected	Mastic/binder	4	Synthetic fibers, Cellulose
6	40535.438-06	1	Yellow mastic		None detected	Mastic/binder	5	Synthetic fibers, Cellulose
7	40535.438-07	1	Beige vinyl		None detected	Vinyl/binder	2	Cellulose
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	67	Cellulose
8	40535.438-08	1	Beige vinyl		None detected	Vinyl/binder	2	Cellulose
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
9	40535.438-09	1	Gray vinyl		None detected	Vinyl/binder	2	Cellulose
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		3	Beige vinyl		None detected	Vinyl/binder	2	Cellulose
		4	Gray fibrous material with mastic	52	Chrysotile	Binder/filler, Mastic/binder	38	Cellulose
10	40535.438-10	1	Gray vinyl		None detected	Vinyl/binder	3	Cellulose
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Beige vinyl		None detected	Vinyl/binder	2	Cellulose
		4	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	34	Cellulose
11	40535.438-11	1	Brown vinyl		None detected	Vinyl/binder	2	Cellulose


SEATTLE ASBESTOS TEST


Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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Attn.: Ferman Fletcher Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.438 Batch#: 202018997 Date Received: 1/13/2020
 Samples Rec'd: 35 Date Analyzed: 1/15/2020 Samples Analyzed: 35
 Project Loc.: Pierce College: Olympic Bldg ECE Renovations

Analyzed by:  Yui Yang/Cassie Huang

Reviewed by:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
11	40535.438-11	2	Gray fibrous material with trace mastic	50	Chrysotile	Binder/filler, Mastic/binder	34	Cellulose
12	40535.438-12	1	Brown vinyl		None detected	Vinyl/binder	2	Cellulose
		2	Gray fibrous material with trace mastic	51	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
13	40535.438-13	1	Cream ceramic		None detected	Ceramic/binder		None detected
		2	Gray brittle/sandy material		None detected	Binder, Sand	2	Cellulose
14	40535.438-14	1	Gray brittle/sandy material		None detected	Binder, Sand	3	Cellulose
15	40535.438-15	1	Tan ceramic		None detected	Ceramic/binder		None detected
		2	White brittle/sandy material		None detected	Binder, Sand	2	Cellulose
		3	Brown/tan mastic		None detected	Mastic/binder	2	Cellulose
16	40535.438-16	1	Tan rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
17	40535.438-17	1	Dark brown rubbery material		None detected	Rubber/binder	3	Cellulose
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
18	40535.438-18	1	Tan rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Yellow/brown mastic		None detected	Mastic/binder	3	Cellulose
		3	Tan powdery material with paint	2	Chrysotile	Binder/filler, Paint	4	Cellulose
		4	Brown paper		None detected	Filler	70	Cellulose
19	40535.438-19	1	Tan rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Trace yellow mastic		None detected	Mastic/binder	2	Cellulose
		3	Trace white powdery material with paint		None detected	Binder/filler, Paint	2	Cellulose
20	40535.438-20	1	Off-white powdery material with paint	2	Chrysotile	Binder/filler, Paint	5	Cellulose
20	Composite result <1%	2	White powdery material with paper	2	Chrysotile	Binder/filler	31	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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ANALYTICAL LABORATORY REPORT PLM by Method EPA/600/R-93/116

Attn.: Ferman Fletcher Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.438 Batch#: 202018997 Date Received: 1/13/2020
 Samples Rec'd: 35 Date Analyzed: 1/15/2020 Samples Analyzed: 35
 Project Loc.: Pierce College: Olympic Bldg ECE Renovations

Analyzed by:  Yui Yang/Cassie Huang Reviewed by:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
20	Composite result <1%	3	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose, Glass fibers
21	40535.438-21	1	Off-white powdery material with paint	2	Chrysotile	Binder/filler, Paint	3	Cellulose
	Composite result <1%	2	White powdery material with paper	2	Chrysotile	Binder/filler	35	Cellulose
		3	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose, Glass fibers
22	40535.438-22	1	Off-white powdery material with paint	2	Chrysotile	Binder/filler, Paint	5	Cellulose
	Composite result <1%	2	White powdery material with paper	2	Chrysotile	Binder/filler	37	Cellulose
		3	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	21	Cellulose, Glass fibers
23	40535.438-23	1	Off-white powdery material with paint	2	Chrysotile	Binder/filler, Paint	4	Cellulose
	Composite result <1%	2	White powdery material with paper	2	Chrysotile	Binder/filler	33	Cellulose
		3	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose, Glass fibers
24	40535.438-24	1	Gray fibrous material with glass beads and paint		None detected	Filler, Fine particles, Glass beads, Paint	90	Mineral wool
25	40535.438-25	1	Gray fibrous material with glass beads and paint		None detected	Filler, Fine particles, Glass beads, Paint	95	Mineral wool
26	40535.438-26	1	Gray fibrous material with glass beads and paint		None detected	Filler, Fine particles, Glass beads, Paint	91	Mineral wool
27	40535.438-27	1	White soft/loose material	3	Chrysotile	Filler, Fine particles	5	Cellulose
28	40535.438-28	1	Black soft/loose material		None detected	Filler, Fine particles	4	Cellulose
29	40535.438-29	1	Pink soft/loose material	3	Chrysotile	Filler, Fine particles	4	Cellulose
30	40535.438-30	1	Black soft/elastic material with paint and debris		None detected	Binder, Filler, Paint, Debris	3	Cellulose
31	40535.438-31	1	Black soft/elastic material with paint and debris		None detected	Binder, Filler, Paint, Debris	3	Cellulose
32	40535.438-32	1	Black soft/elastic material with paint and debris		None detected	Binder, Filler, Paint, Debris	2	Cellulose
33	40535.438-33	1	Off-white powdery material with woven fibrous material		None detected	Binder/filler	37	Cellulose, Glass fibers

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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ANALYTICAL LABORATORY REPORT PLM by Method EPA/600/R-93/116

Attn.: Ferman Fletcher Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.438 Batch#: 202018997 Date Received: 1/13/2020
 Samples Rec'd: 35 Date Analyzed: 1/15/2020 Samples Analyzed: 35
 Project Loc.: Pierce College: Olympic Bldg ECE Renovations

Analyzed by: Yui Yang/Cassie Huang

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
34	40535.438-34	1	Off-white powdery material with woven fibrous material		None detected	Binder/filler	35	Cellulose, Glass fibers
35	40535.438-35	1	Off-white powdery material with woven fibrous material		None detected	Binder/filler	35	Cellulose, Glass fibers

APPENDIX B

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>
40535.438 -Pb01	Tan / Concrete / Decking	Room O161	<77	<0.0077	NVL
40535.438 -Pb02	Blue / Gypsum Wallboard / Wall	Room O160; South Wall	<53	<0.0053	NVL
40535.438 -Pb03	Tan / Gypsum Wallboard / Wall	Room O161; West Wall	<56	<0.0056	NVL
40535.438 -Pb04	Tan / Metal / Interior Window Frame	Room O161; South Wall	160	0.0160	NVL
40535.438 -Pb05	Tan / Gypsum Wallboard / Wall	Room O166; East Wall	<43	<0.0043	NVL

January 14, 2020

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



RE: Metals Analysis; NVL Batch # 2000854.00

Dear Mr. Fletcher,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and 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 details.

This 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 are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

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

Nick Ly, Technical Director

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 #: 2000854.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 40535.438
Date Received: 1/13/2020
Samples Received: 5
Samples Analyzed: 5

Attention: Mr. Ferman Fletcher

Project Location: Pierce College: Olympic Bldg ECE Renovations

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
20013731	40535.438-Pb01	0.1295	77	< 77	<0.0077
20013732	40535.438-Pb02	0.1884	53	< 53	<0.0053
20013733	40535.438-Pb03	0.1774	56	< 56	<0.0056
20013734	40535.438-Pb04	0.1775	56	160	0.016
20013735	40535.438-Pb05	0.2340	43	< 43	<0.0043

Sampled by: Client

Analyzed by: Shalini Patel

Reviewed by: Nick Ly

Date Analyzed: 01/14/2020

Date Issued: 01/14/2020

A handwritten signature in black ink, appearing to read 'Nick Ly', is written over a horizontal line.

Nick Ly, Technical Director

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: 2020-0114-07

FAA-02

LEAD LABORATORY SERVICES



Company PBS Environmental - Seattle	NVL Batch Number 2000854.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Mr. Ferman Fletcher	Rush TAT
Phone (206) 233-9639	Due Date 1/14/2020 Time 1:55 PM
Cell (206) 491-1389	Email ferman.fletcher@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.438 **Project Location:** Pierce College: Olympic Bldg ECE Renovations

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

Total Number of Samples 5 **Rush Samples** _____

Lab ID	Sample ID	Description	A/R
1	20013731	40535.438-Pb01	A
2	20013732	40535.438-Pb02	A
3	20013733	40535.438-Pb03	A
4	20013734	40535.438-Pb04	A
5	20013735	40535.438-Pb05	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	1/13/20	1355
Analyzed by	Shalini Patel		NVL	1/14/20	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 1/13/2020
 Time: 1:54 PM
 Entered By: Emily Schubert

APPENDIX C

Certifications

Certificate of Completion

This is to certify that
Ferman L. Fletcher
has satisfactorily completed
4 hours of refresher training as an
AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

172753
Certificate Number



Apr 17, 2019
Date(s) of Training

Expires in 1 year.

Exam Score: N/A
(if applicable)

A handwritten signature in black ink that reads "Susan N. Maas".

Instructor

Limited Hazardous Materials Summary Report

Olympic Building Partial Reclad and Roof Replacement

9401 Farwest Drive Southwest
Lakewood, WA 98498

Prepared for:
State of Washington
Department of Enterprise Services
PO Box 41012
Olympia, WA 98504

March 20, 2020
PBS Project 40535.437



214 EAST GALER STREET
SUITE 300
SEATTLE, WA 98102
206.233.9639 MAIN
866.727.0140 FAX
PBSUSA.COM

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APPENDICES

APPENDIX A: PLM Bulk Sampling Information

PLM Bulk Sample Inventory

PLM Bulk Sample Laboratory Data Sheets and Chain of Custody Documentation

APPENDIX B: AA Lead Paint Chip Sampling Information

AA Lead Paint Chip Sample Inventory

AA Lead Paint Chip Laboratory Data Sheets and Chain of Custody Documentation

APPENDIX C: Bulk PCB Sampling Information

Bulk PCB Sample Inventory

Bulk PCB Laboratory Data Sheets and Chain of Custody Documentation

APPENDIX D: Certifications

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1 INTRODUCTION

1.1 Project Background

PBS Engineering and Environmental, Inc. (PBS) performed a survey of the first floor exterior and the roof of the Olympic Building South, located at the Pierce College Fort Steilacoom Campus, to determine the presence of asbestos-containing materials (ACMs), lead-containing paints (LCP), and PCB-containing materials. The intent of this report is to ensure that Pierce College is in compliance with applicable regulatory requirements that a "good faith inspection" for ACMs be performed prior to renovation/demolition activities.

It is PBS' understanding that the scope of work for this project includes the replacement of existing exterior finishes surrounding the first floor of the building and the building roof. The survey did not include any other areas in the Olympic Building.

1.2 Building Descriptions

The Olympic Building is a three-story, slab-on-grade structure originally constructed in 1976. The exterior is accented with marblecrete, gypsum wallboard, concrete, and EIFS (Exterior Finish and Insulation). Windows are aluminum-framed.

1.3 Survey Process

All accessible areas were inspected by AHERA Certified Building Inspector Ferman Fletcher (Cert. No. 172753 Exp. 4/17/2020) on January 10, 2020. 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 in order to gain access.

When observed, suspect materials were sampled. All samples were assigned a unique identification number and transmitted for analysis to Seattle Asbestos Test (NVLAP #201057-0) 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. Information regarding the type and location of sampled materials can be found on the attached PLM Sample Inventory located in Appendix A.

Suspect ACMs may exist in inaccessible areas. PBS endeavored to determine the presence and estimate the condition of suspect materials in all inaccessible areas included in the scope of work. While PBS has endeavored to identify the ACMs that may be found in concealed locations, additional unidentified ACMs may exist. All building demolition activities should be performed cautiously to prevent impacts to concealed asbestos-containing materials.

2 FINDINGS

2.1 Asbestos-Containing Materials (ACMs)

The following materials were determined to contain greater than 1% asbestos:

- Residual grey sealant beneath non-asbestos dark grey sealant – 1st Floor West elevation sealant on Northwest corner column and sealant between concrete deck and metal storefront (Approx. 70 LF);

Materials sampled and found not to be asbestos-containing include:

- Marblecrete paneling – South and West elevation;

- Dark grey transition sealant – surrounding substrates on the south and west elevation of the first floor;
- Gypsum wallboard paneling – Columns throughout;
- EIFS paneling – North, East and South elevation;
- Membrane roofing and associated insulation – Roof.

For a complete listing of representative bulk sampling and associated laboratory analysis, refer to the inventory in Appendix A.

PBS sampled visible **dark grey** sealant from the Olympic South Building in several locations along the West and South elevations on the 1st floor and obtained mixed results. The sampling discovered a second layer of asbestos-containing **residual grey** sealant in two locations on the west elevation. It is PBS' opinion that this is a residual material from older sealant. While PBS endeavored to locate this material by conducting additional sampling it is possible that the older sealant may exist in other concealed locations.

2.2 Lead-Containing Components

Two (2) 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 (EPA 3051/7000B).

The following painted coatings were sampled and found to contain lead:

- Tan paint on exterior column walls was found to contain 0.010% lead;
- Tan paint on wood doors was found to contain 0.020% lead.

See Appendix B for locations and laboratory results of paint samples.

2.3 PCB-Containing Components

The following sealant was tested by PBS for the presence of PCBs:

- Dark Grey Storefront Sealant – West elevation.

One (1) representative sample was collected for analysis. The sample was assigned a unique identification number and transmitted to NVL Labs, Seattle, Washington under chain-of-custody protocols for analysis using EPA Method 8082 for PCBs.

The material sampled was not found to contain detectible PCBs. For the locations and laboratory results of PCB sampling see Appendix C.

3 RECOMMENDATIONS

3.1 ACMs

PBS recommends that all exposed and concealed ACMs to be impacted by the renovation/demolition activities be removed prior to construction activities. Any impacts to asbestos-containing materials should be performed by a qualified Washington State licensed asbestos abatement contractor. All impacts should be performed according to applicable Puget Sound Clean Air Authority (PSCAA), Washington Administrative Code 296-62-07 and CFR Chapter 40 Part 763 AHERA.

The possibility exists that suspect ACMs may be present in equipment, wall and ceiling cavities, beneath concrete slabs and buried in site soils included in the scope of the work. These may include, but are not limited to waterproofing membrane, internal gaskets, pipe insulation, piping materials, caulking and sealants of HVAC equipment and construction adhesives and wall mastics. Additional suspect-ACMs may be present in concealed spaces. Caution should always be exercised during selective demolition to prevent impact of suspect-ACMs. All suspect ACMs should be presumed asbestos-containing until properly sampled and analyzed. In the event that suspect ACMs is uncovered during construction, contractors should stop work immediately and inform the owner promptly for confirmation testing.

3.2 Lead-Containing Components

Representative painted coatings from the project locations were found to contain lead by laboratory analysis. Impact of painted surfaces with detectable concentrations of lead requires construction activities to be performed according to Washington Labor and Industries regulations for Lead in Construction (WAC 296-155). Workers impacting LCP should be provided the proper personal protective equipment and use proper work methods to limit occupational and environmental exposure to lead until an initial exposure assessment has been conducted. Additionally, all impacts to lead-containing paint shall be in accordance with 40 CFR Part 745.

Painted coatings may exist in inaccessible areas of the work area or in secondary coatings. Any previously unidentified painted coatings should be considered lead containing until sampled and proven otherwise.

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

Report prepared by:
PBS Engineering and Environmental, Inc.,

Ferman Fletcher
AHERA Building Inspector
Cert. # 172753, expiration 4/17/2020

Report reviewed by: GM

APPENDIX A

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>
40535.437 -01	Marblecrete	South elevation, west end	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.437 -02	Marblecrete	South elevation, west end	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.437 -03	Marblecrete	West elevation, south end	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.437 -04	Marblecrete	West elevation, Center	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.437 -05	Marblecrete	West elevation, south end	Layer 1: Gray sandy/brittle material with stone	NAD	SAT
40535.437 -06	EIFS Panel	North elevation, west end	Layer 1: Gray brittle material with woven fibrous material	NAD	SAT
40535.437 -07	Grey Window Frame Caulking	West elevation, north end of windows	Layer 1: Gray soft/elastic material	NAD	SAT
40535.437 -08	Grey Column Sealant	South elevation	Layer 1: Gray soft/elastic material with paint	NAD	SAT
40535.437 -09	Transition Caulk between marblecrete and metal store front	South elevation; entrance	Layer 1: Gray soft/elastic material	NAD	SAT
40535.437 -10	Grey Sealant between EIFS Panels	North elevation	Layer 1: Gray soft/elastic material	NAD	SAT
40535.437 -11	Grey Transition Caulk between EIFS and concrete	North elevation	Layer 1: Gray soft/elastic material	NAD	SAT
40535.437 -12	Grey Transition caulk between Marblecrete and gypsum wallboard	West elevation, north end	Layer 1: Gray soft/elastic material	3% Chrysotile	SAT
			Layer 2: Gray soft material	NAD	
40535.437 -13	Grey Storefront Sealant	South elevation	Layer 1: Gray soft/elastic material	NAD	SAT
40535.437 -14	Membrane/Insulation	Roof	Layer 1: White/blue soft/elastic material with fibrous material	NAD	SAT
			Layer 2: Trace black asphaltic material	NAD	
			Layer 3: Brown fibrous material	NAD	
			Layer 4: Silver foil	NAD	
			Layer 5: Tan paper with black mastic	NAD	
			Layer 6: Yellow foamy material	NAD	

Pierce College: Olympic Bldg Partial Reclad Roof Replacement
WA Department of Enterprise Services

PBS Engineering + Environmental
PBS Project #40535.437

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
			Layer 7: Black asphaltic fibrous material Layer 8: Black asphaltic material	NAD NAD	
40535.437 -15	Grey Column Insulation	South elevation. Column next to storefront entry	Layer 1: Gray soft/elastic material with paint	NAD	SAT
40535.437 -16	Dark Grey Column Caulking (2 layers between marblecrete and gypsum wallboard)	West elevation; north most column, central height	Layer 1: Dark gray soft/elastic material Layer 2: Gray soft material	NAD 3% Chrysotile	SAT
40535.437 -17	Dark Grey Column Caulking (between marblecrete and gypsum wallboard)	West elevation; north most column, base of column	Layer 1: Dark gray soft/elastic material Layer 2: White foamy material	NAD NAD	SAT
40535.437 -18	Dark Grey Caulking Foam (beneath metal window frame over marblecrete panel)	West elevation; North end, south of North doorway	Layer 1: Dark gray soft/elastic material Layer 2: White foamy material	NAD NAD	SAT
40535.437 -19	Dark Grey Caulking Foam (surrounding north metal door frame)	West elevation; north end, North of North door	Layer 1: Dark gray soft/elastic material Layer 2: White foamy material	NAD NAD	SAT
40535.437 -20	Dark Grey Column Caulking (between marblecrete and gypsum wallboard)	West elevation; Central Column, north side	Layer 1: Dark gray soft/elastic material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.437 -21	Dark Grey Column Caulking (between marblecrete and gypsum wallboard)	West elevation; Central Column, south side	Layer 1: Dark gray/beige soft/elastic material Layer 2: White chalky material with paper	NAD NAD	SAT
40535.437 -22	Dark Grey Caulking Foam (surrounding south metal door frame)	West elevation; North side of south door	Layer 1: Dark gray soft/elastic material Layer 2: White foamy material	NAD NAD	SAT

**Pierce College: Olympic Bldg Partial Reclad Roof Replacement
WA Department of Enterprise Services**

**PBS Engineering + Environmental
PBS Project #40535.437**

<u>PBS Sample #</u>	<u>Material Type</u>	<u>Sample Location</u>	<u>Lab Description</u>	<u>Lab Result</u>	<u>Lab</u>
40535.437 -23	Dark Grey Caulking Foam (surrounding south metal door frame)	West elevation; South side of south door	Layer 1: Dark gray soft/elastic material Layer 2: White foamy material	NAD NAD	SAT
40535.437 -24	Dark Grey Caulking caulk (2 layers between metal window frame and concrete deck)	West elevation; South end	Layer 1: Dark gray soft/elastic material Layer 2: Gray soft material	NAD 3% Chrysotile	SAT
40535.437 -25	Dark Grey Caulking Foam (surrounding south metal window frame)	West elevation; southwest corner	Layer 1: Dark gray soft/elastic material Layer 2: White foamy material	NAD NAD	SAT
40535.437 -26	Dark Grey Column Caulking (between marblecrete and gypsum wallboard)	South elevation; west end column, east side	Layer 1: Dark gray soft/elastic material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40535.437 -27	Dark Grey Column Caulking (between marblecrete and gypsum wallboard)	South elevation; west central column	Layer 1: Dark gray soft/elastic material with paint	NAD	SAT
40535.437 -28	Dark Grey Column Caulking (between marblecrete and gypsum wallboard)	South elevation; east central column	Layer 1: Dark gray soft/elastic material with paint	NAD	SAT

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager: Ferman Fletcher	Date Analyzed: 1/13/2020
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.437
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College: Olympic Bldg Roof Replacement
Tel: 206.233.9639	Laboratory batch#: 202018998
	Samples Received: 13

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.

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
President



202018998

Project: Pierce College: Olympic Bldg Roof Replacement

Project #: 40535.437

Analysis requested: PLM

Date: 1/13/20

Relinq'd by/Signature: [Signature]

Date/Time: 1/13/20

Received by/Signature: [Signature] SAT

Date/Time: 1/13/20 @ 1330

E-mail results to:

- Brian Stanford
- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Prudy Stoudt-McRae

- Cel Alvarez
- Janet Murphy
- Kaitlin Soukup
- Martin Estira
- Justin Day
- Filmon Embaye

- Mike Smith
- Ferman Fletcher
- Holly Tuttle
- Ryan Hunter
- Eman Jabali

E-mail all invoices to: seattleap@pbsusa.com

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.437-01	Marblecrete	S. elevation, W. end	SAT
-02	"	S. elevation, W. end	
-03	"	W. elevation, S. end	
-04	"	W. elevation, Center	
-05	"	W. elevation, S. end	
-06	EIFS Panel	N. elevation, W. end	
-07	Grey Window Frame Caulking	W. elevation, N. end of windows	
-08	Grey Column Sealant	S. elevation	
-09	Transition Caulk b/w marblecrete and metal store front	S. elevation; entrance	
-10	Grey Sealant b/w EIFS Panels	N. elevation	
-11	Grey Transition Caulk b/w EIFS and concrete	N. elevation	
-12	Grey Transition caulk b/w Marblecrete and GWB	W. elevation, N end	
-13	Grey Storefront Sealant	S. elevation	

Analysed: Xinping Lin [Signature] 1/13/2020 16:10
 214 EAST GALER STREET, SUITE 300, SEATTLE, WA 98102 • 206.233.9639 MAIN • 866.727.0140 FAX • PBSUSA.COM

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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 by Method EPA/600/R-93/116

Attn.: Ferman Fletcher Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.437 Batch#: 202018998 Date Received: 1/13/2020
 Samples Rec'd: 13 Date Analyzed: 1/13/2020 Samples Analyzed: 13
 Project Loc.: Pierce College: Olympic Bldg Roof Replacement

Analyzed by:  Yui Yang/Xingping Lin Reviewed by:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.437-01	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
2	40535.437-02	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
3	40535.437-03	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
4	40535.437-04	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
5	40535.437-05	1	Gray sandy/brittle material with stone		None detected	Sand, Filler, Binder	3	Cellulose
6	40535.437-06	1	Gray brittle material with woven fibrous material		None detected	Filler, Binder	25	Cellulose, Glass fibers
7	40535.437-07	1	Gray soft/elastic material		None detected	Binder, Filler	4	Cellulose
8	40535.437-08	1	Gray soft/elastic material with paint		None detected	Binder, Filler, Paint	3	Cellulose
9	40535.437-09	1	Gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
10	40535.437-10	1	Gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
11	40535.437-11	1	Gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
12	40535.437-12	1	Gray soft/elastic material	3	Chrysotile	Binder, Filler	2	Cellulose
		2	Gray soft material		None detected	Filler, Binder	3	Cellulose
13	40535.437-13	1	Gray soft/elastic material		None detected	Binder, Filler	2	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave, NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestos.com, admin@seattleasbestos.com

Project Manager:	Ms. Eman Jabali, Mr. Ferman Fletcher	Date Analyzed:	2/26/2020
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40525.437
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College: Olympic Bldg, Roof Replacement
Tel:	206.233.9639	Laboratory batch#:	202019484
		Samples Received:	2

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.

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
President

SEATTLE ASBESTOS TEST

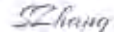
Seattle Laboratory, 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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 by Method EPA/600/R-93/116

Attn: Ms. Eman Jabali, Mr. Ferman Fletcher
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40525.437
Batch#: 202019484
Date Received: 2/25/2020
Samples Rec'd: 2
Date Analyzed: 2/26/2020
Samples Analyzed: 2
Rev. Code: P2p847
Project Loc.: Pierce College/ Olympic Bldg. Roof Replacement.

Analyzed by: 
Carolyn Yoo

Reviewed by: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.437-14	1	White/blue soft/elastic material with fibrous material		None detected	Filler	30	Synthetic fibers
		2	Trace black asphaltic material		None detected	Asphalt/binder	3	Cellulose
		3	Brown fibrous material		None detected	Filler	88	Cellulose
		4	Silver foil		None detected	Foil/binder		None detected
		5	Tan paper with black mastic		None detected	Filler, Asphalt/binder	70	Cellulose
		6	Yellow foamy material		None detected	Synthetic foam		None detected
		7	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	65	Cellulose
		8	Black asphaltic material		None detected	Asphalt/binder	2	Cellulose
2	40535.437-15	1	Gray soft/elastic material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	Brown fibrous material		None detected	Filler	71	Cellulose
		3	Trace dark brown soft/elastic material		None detected	Binder, Filler	2	Cellulose
		4	Trace pink powdery material		None detected	Binder, Filler	2	Cellulose

SEATTLE ASBESTOS TEST, LLC

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager: Ferman Fletcher

Client: PBS Engineering and Environmental, Seattle

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

Tel: 206.233.9639

Date Analyzed: 3/10/2020

Client Job#: 40535.437

Project Location: Pierce College: Olympic Bldg Roof
Replacement

Laboratory batch#: 202019655

Samples Received: 13

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.

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
President



202019655

Project: Pierce College: Olympic Bldg Roof Replacement

Project #: 40535.437

Analysis requested: PLM

Date: 3/6/20

Relinq'd by/Signature: [Signature]

Date/Time: 3/6/20

Received by/Signature: [Signature] SAT

Date/Time: 3/9/20@1700

E-mail results to:

- Brian Stanford
- Willem Mager
- Gregg Middaugh
- Mark Hiley
- Tim Ogden
- Prudy Stoudt-McRae

- Cel Alvarez
- Janet Murphy
- Kaitlin Soukup
- Martin Estira
- Justin Day
- Filmon Embaye

- Mike Smith
- Ferman Fletcher
- Holly Tuttle
- Ryan Hunter
- Eman Jabali

E-mail all invoices to: seattleap@pbsusa.com

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40535.437-16	Dark Grey Column Caulking (2 layers b/w marble crete and GWB)	W. elevation; N. most column, Central height	SAT
-17	Dark Grey Column Caulking (b/w marble crete and GWB)	W. elevation; N. most column, Base of column	
-18	Dark Grey Caulking/Foam (Beneath metal window frame over marblecrete panel)	W. elevation; North end, south of North doorway	
-19	Dark Grey Caulking/Foam (Surrounding N. metal door frame)	W. elevation N. end North of North door	
-20	Dark Grey Column Caulking (b/w marble crete and GWB)	W. elevation; Central Column, N. side	
-21	Dark Grey Column Caulking (b/w marble crete and GWB)	W. elevation; Central Column, S. side	
-22	Dark Grey Caulking/Foam (Surrounding S. metal door frame)	W. elevation; North side of south door	
-23	Dark Grey Caulking/Foam (Surrounding S. metal door frame)	W. elevation; South side of south door	
-24	Dark Grey Caulking/Foam (2 layers b/w metal window frame and concrete deck)	West elevation; South end	
-25	Dark Grey Caulking/Foam (Surrounding S. metal window frame)	W. elevation; SW corner	
-26	Dark Grey Column Caulking (b/w marblecrete and GWB)	South elevation; W. end column, E. side	
-27	Dark Grey Column Caulking (b/w marblecrete and GWB)	South elevation; W. central column	
-28	Dark Grey Column Caulking (b/w marblecrete and GWB)	South elevation; E. central column	

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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 by Method EPA/600/R-93/116

Attn.: Ferman Fletcher Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.437 Batch#: 202019655 Date Received: 3/9/2020
 Samples Rec'd: 13 Date Analyzed: 3/10/2020 Samples Analyzed: 13
 Project Loc.: Pierce College: Olympic Bldg Roof Replacement

Analyzed by: Yui Yang *[Signature]* Reviewed by: Steve (Fanyao) Zhang, President *[Signature]*

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.437-16	1	Dark gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	Gray soft material	3	Chrysotile	Filler, Binder	4	Cellulose
2	40535.437-17	1	Dark gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	White foamy material		None detected	Synthetic foam		None detected
3	40535.437-18	1	Dark gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
		2	White foamy material		None detected	Synthetic foam		None detected
4	40535.437-19	1	Dark gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
		2	White foamy material		None detected	Synthetic foam		None detected
5	40535.437-20	1	Dark gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
6	40535.437-21	1	Dark gray/beige soft/elastic material		None detected	Binder, Filler	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose
7	40535.437-22	1	Dark gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	White foamy material		None detected	Synthetic foam		None detected
8	40535.437-23	1	Dark gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	White foamy material		None detected	Synthetic foam		None detected
9	40535.437-24	1	Dark gray soft/elastic material		None detected	Binder, Filler	3	Cellulose
		2	Gray soft material	3	Chrysotile	Filler, Binder	3	Cellulose
10	40535.437-25	1	Dark gray soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	White foamy material		None detected	Synthetic foam		None detected
11	40535.437-26	1	Dark gray soft/elastic material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
12	40535.437-27	1	Dark gray soft/elastic material with paint		None detected	Binder, Filler, Paint	3	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

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 by Method EPA/600/R-93/116

Attn.: Ferman Fletcher Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.437 Batch#: 202019655 Date Received: 3/9/2020
 Samples Rec'd: 13 Date Analyzed: 3/10/2020 Samples Analyzed: 13
 Project Loc.: Pierce College: Olympic Bldg Roof Replacement

Analyzed by:  Yui Yang Reviewed by:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
13	40535.437-28	1	Dark gray soft/elastic material with paint		None detected	Binder, Filler, Paint	3	Cellulose

APPENDIX B

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>
40535.437 -Pb01	Tan / Gypsum Wallboard / Column	South elevation	100	0.010	NVL
40535.437 -Pb02	Tan / Wood / Door	West elevation	200	0.020	NVL

January 14, 2020

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



RE: Metals Analysis; NVL Batch # 2000855.00

Dear Mr. Fletcher,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and 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 details.

This 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 are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

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

Nick Ly, Technical Director

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 #: 2000855.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 40535.437
Date Received: 1/13/2020
Samples Received: 2
Samples Analyzed: 2

Attention: Mr. Ferman Fletcher

Project Location: Pierce College: Olympic Bldg Roof Replacement

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
20013736	40535.437-Pb01	0.2297	44	100	0.010
20013737	40535.437-Pb02	0.2090	48	200	0.020

Sampled by: Client

Analyzed by: Shalini Patel

Reviewed by: Nick Ly

Date Analyzed: 01/14/2020

Date Issued: 01/14/2020

A handwritten signature in black ink, appearing to read 'Nick Ly', is written over a horizontal line.

Nick Ly, Technical Director

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: 2020-0114-07

FAA-02

LEAD LABORATORY SERVICES



Company PBS Environmental - Seattle	NVL Batch Number 2000855.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Mr. Ferman Fletcher	Rush TAT
Phone (206) 233-9639	Due Date 1/14/2020 Time 1:55 PM
Cell (206) 491-1389	Email ferman.fletcher@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.437 **Project Location:** Pierce College: Olympic Bldg Roof Replacement

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

Total Number of Samples 2 **Rush Samples** _____

	Lab ID	Sample ID	Description	A/R
1	20013736	40535.437-Pb01		A
2	20013737	40535.437-Pb02		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	1/13/20	1355
Analyzed by	Shalini Patel		NVL	1/14/20	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 1/13/2020
 Time: 1:59 PM
 Entered By: Emily Schubert

APPENDIX C

Bulk PCB Sampling Information

Bulk PCB Sample Inventory

Bulk PCB Laboratory Data Sheets

Bulk 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>
40535.437 -PCB01	Grey sealant around metal storefront	West elevation; north end	Aroclor - 1016	<1.1	NVL
			Aroclor - 1221	<1.1	
			Aroclor - 1232	<1.1	
			Aroclor - 1242	<1.1	
			Aroclor - 1248	<1.1	
			Aroclor - 1254	<1.1	
			Aroclor - 1260	<1.1	
			PCBs, Total	<1.1	

January 16, 2020



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

Re: **NVL Batch 2000857.00**

Project Name/Number: 40535.437

Project location: Pierce College: Olympic Bldg Roof Replacement

Dear Mr. Fletcher,

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

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 for Project Number: 40535.437. 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 based on dry weight in milligrams per kilograms (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*	1
SDG Number	2000857.00	Analyzed By	Aaron Brown
Date Reported	01/16/2020	Samples Analyzed*	1
Project Number	40535.437	Analysis Method	8082A
Location	Pierce College: Olympic Bldg Roof Replacement	Preparation Method	3546PR (PCB)

* for this test only

Sample Number	40535.437-PCB01	Received	01/13/2020
Lab Sample ID	20013740	Matrix	Material
Initial Sample Size	1.8528 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	1.1	< 1.1	01/14/2020
Aroclor-1221	1.1	< 1.1	01/14/2020
Aroclor-1232	1.1	< 1.1	01/14/2020
Aroclor-1242	1.1	< 1.1	01/14/2020
Aroclor-1248	1.1	< 1.1	01/14/2020
Aroclor-1254	1.1	< 1.1	01/14/2020
Aroclor-1260	1.1	< 1.1	01/14/2020
PCBs, Total	1.1	<1.1	

Quality Control Results

Project Number:	40535.437	SDG Number:	2000857
		Project Manager:	Ferman Fletcher
QC Batch(es):	Q1128	Analysis Method:	8082A
QC Batch Method:	3546PR (PCB)	Analysis Description:	Polychlorinated Biphenyls by Gas Chromatography
Preparation Date:	01/14/2020		
Blank: MBLK-2000857			

Analyte	Blank Result	Units	DF	RL	Control Limit	Qualifiers
Aroclor-1016	ND	mg/Kg	1	1.0	1	
Aroclor-1221	ND	mg/Kg	1	1.0	1	
Aroclor-1232	ND	mg/Kg	1	1.0	1	
Aroclor-1242	ND	mg/Kg	1	1.0	1	
Aroclor-1248	ND	mg/Kg	1	1.0	1	
Aroclor-1254	ND	mg/Kg	1	1.0	1	
Aroclor-1260	ND	mg/Kg	1	1.0	1	
PCBs, Total	ND	mg/Kg	1	1.0	1	
<i>Surrogates:</i>					% Rec	
Tetrachloro-m-xylene			1		66	40-140
Decachlorobiphenyl			1		100	40-140

Lab Control Sample: LCS-1254-2000857

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Aroclor-1254	15.9	mg/Kg	1	20.0	79	40-140	
<i>Surrogates:</i>							
Tetrachloro-m-xylene			1		79	40-140	
Decachlorobiphenyl			1		107	40-140	

Lab Control Sample: LCS-1016-1260-2000857

Lab Control Sample Duplicate: LCSD-1016-1260-2000857

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	16.2	mg/Kg	1	20.0	81	40-140			
	17			20.0	85	40-140	5	50	
Aroclor-1260	19.3	mg/Kg	1	20.0	97	40-140			
	19.9			20.0	99	40-140	3	50	
<i>Surrogates:</i>									
Tetrachloro-m-xylene			1		78	40-140			
					76	40-140			
Decachlorobiphenyl			1		110	40-140			
					106	40-140			



Surrogate Recovery Summary Report

Client		SDG Number		
PBS Environmental		2000857		
Project				
40535.437				
Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
40535.437-PCB01	20013740	Decachlorobiphenyl	97%	40-140
40535.437-PCB01	20013740	Tetrachloro-m-xylene	89%	40-140
LCS-1016-1260-2000857	LCS-1016-1260-2000857	Decachlorobiphenyl	110%	40-140
LCS-1016-1260-2000857	LCS-1016-1260-2000857	Tetrachloro-m-xylene	78%	40-140
LCS-1254-2000857	LCS-1254-2000857	Decachlorobiphenyl	107%	40-140
LCS-1254-2000857	LCS-1254-2000857	Tetrachloro-m-xylene	79%	40-140
LCSD-1016-1260-2000857	LCSD-1016-1260-2000857	Decachlorobiphenyl	106%	40-140
LCSD-1016-1260-2000857	LCSD-1016-1260-2000857	Tetrachloro-m-xylene	76%	40-140
MBLK-2000857	MBLK-2000857	Decachlorobiphenyl	100%	40-140
MBLK-2000857	MBLK-2000857	Tetrachloro-m-xylene	66%	40-140

* Recovery outside limits



INITIAL AND CONTINUING CALIBRATION VERIFICATION

SDG No: **2000857**

Contract:

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

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R001121	CCV1-1016-1260	PCB_2019-1-2	01/14/2020	Aroclor-1016	5	5	ug/mL	100	80-120
		PCB_2019-1-2	01/14/2020	Aroclor-1260	5	5	ug/mL	100	80-120
	CCV1-1254	PCB_2019-1-3	01/14/2020	Aroclor-1254	5	5	ug/mL	100	80-120
	ICV 1016-1254-1260	PCB_2019-1-4	01/14/2020	Aroclor-1016	5	4.652	ug/mL	93	85-115
		PCB_2019-1-4	01/14/2020	Aroclor-1254	5	4.738	ug/mL	95	85-115
		PCB_2019-1-4	01/14/2020	Aroclor-1260	5	4.984	ug/mL	100	85-115
	CCV2-1016-1260	PCB_2019-1-2	01/14/2020	Aroclor-1016	5	5.288	ug/mL	106	80-120
		PCB_2019-1-2	01/14/2020	Aroclor-1260	5	5.674	ug/mL	113	80-120
	CCV2-1254	PCB_2019-1-3	01/14/2020	Aroclor-1254	5	5.72	ug/mL	114	80-120

% Rec = Percent recovery

* = Percent recovery not within control limits

ORGANICS LABORATORY SERVICES



NVL

Company <u>PBS Environmental - Seattle</u> Address <u>214 E Galer St. Suite. 300</u> <u>Seattle, WA 98102</u> Project Manager <u>Mr. Ferman Fletcher</u> Phone <u>(206) 233-9639</u> Cell <u>(206) 491-1389</u>	NVL Batch Number 2000857.00 TAT <u>3 Days</u> AH No. _____ Rush TAT _____ Due Date <u>1/16/2020</u> Time <u>1:55 PM</u> Email <u>ferman.fletcher@pbsusa.com</u> Fax <u>(866) 727-0140</u>
--	---

Project Name/Number: 40535.437 **Project Location:** Pierce College: Olympic Bldg Roof Replacement

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

Total Number of Samples 1 Rush Samples _____

Lab ID	Sample ID	Description	A/R
1	20013740	40535.437-PCB01	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Courier				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	1/13/20	1355
Analyzed by	<i>Ann Br...</i>	<i>[Signature]</i>	NVL	1/14/20	13:30
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Entered By: Emily Schubert Date: 1/13/2020 Time: 2:04 PM 1 of 1

APPENDIX D

Certifications

Certificate of Completion

This is to certify that
Ferman L. Fletcher
has satisfactorily completed
4 hours of refresher training as an
AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

172753
Certificate Number



Apr 17, 2019
Date(s) of Training

Expires in 1 year.

Exam Score: N/A
(if applicable)

A handwritten signature in black ink that reads "Susan N. Maas".

Instructor

ARGUS PACIFIC, INC / 21905 64th AVE W, SUITE 100 / MOUNTLAKE TERRACE, WASHINGTON 98043 / 206.285.3373 / ARGUSPACIFIC.COM

APPENDIX E

Certifications

THIS IS TO CERTIFY THAT
CLAIRE TSAI
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: 01/18/2021

Course Location: Portland, OR

Certificate: IRO-21-7316B



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: 01/18/2022

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, which appears to read "Andy Fridley", is written over a horizontal line.

Andy Fridley, Instructor

THIS IS TO CERTIFY THAT

FERMAN L FLETCHER

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: 04/01/2021

Course Location: Portland, OR

Certificate: IR-21-8539B



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: 04/01/2022

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

THIS IS TO CERTIFY THAT

FERMAN L FLETCHER

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: 04/01/2020

Course Location: Portland, OR

Certificate: IR-20-8539B



CCB #SRA0615 4-Hr Training

CCB #SRA0615 4-Hr Training

Expiration Date: 04/01/2021

For verification of the authenticity of this
certificate contact:

PBS Environmental
4412 SW Corbett Avenue
Portland, OR 97239
(503) 248-1939

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

Andy Fridley, Instructor

THIS IS TO CERTIFY THAT
STEFAN RANKIN
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: 09/03/2020

Course Location: Portland, OR

Certificate: IRO-20-5564B



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: 09/03/2021

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

A handwritten signature in black ink, which appears to read "Andy Fridley", is written over a horizontal line.

Andy Fridley, Instructor

THIS IS TO CERTIFY THAT
NICK PARR
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: 09/03/2020

Course Location: Portland, OR

Certificate: IRO-20-4749B



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: 09/03/2021

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

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

Andy Fridley, Instructor

APPENDIX B

Construction Phase 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>
40535.488 9/7/2021-01	Brown cork board mastic behind shelving	Room 166A middle casework	Layer 1: Brown mastic Layer 2: Silver foil Layer 3: Off-white mastic	NAD NAD NAD	SAT
40535.488 9/20/2021-01	Tan mirror mastic	Olympic South Room 338B	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 9/20/2021-02	Tan mirror mastic	Olympic South Room 338B	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 9/21/2021-01	Tan/white board mastic	Olympic South Room 324	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 9/21/2021-02	Tan/white board mastic	Olympic South Room 324	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 9/21/2021-03	White residue/ exterior of conduit	Olympic South Room. 173	Layer 1: White brittle material	NAD	SAT
40535.488 9/23/2021-01	White fire brick	Provided by maintenance department historical building material	Layer 1: White/ gray/ sandy brittle material	NAD	SAT
40535.488 9/23/2021-02	White fire brick	Provided by maintenance department historical building material	Layer 1: White sandy/ brittle material	NAD	SAT
40535.488 9/24/2021-01	Surface dust	Room 164 south supply ~14,000,000	Layer 1: Dust	NAD	SAT
40535.488 9/24/2021-02	Surface dust	Room 163 east wall supply ~9,000,000	Layer 1: Dust	NAD	SAT
40535.488 9/24/2021-03	Surface dust	FL1 corridor west side east supply duct ~1,000,000	Layer 1: Dust	NAD	SAT
40535.488 9/24/2021-04	Surface dust	FL1 corridor west side center return duct ~500,000	Layer 1: Dust	NAD	SAT
40535.488 9/24/2021-05	Surface dust	ECE center supply duct ~12,000	Layer 1: Dust	NAD	SAT

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>
40535.488 9/29/2021-01	Tan mastic behind duct insulation	Mechanical Room 173 intake duct	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 9/29/2021-02	Tan mastic server floor support	Room 325 server floor	Layer 1: Tan/yellow mastic	NAD	SAT
40535.488 12/17/2021-01	Black mastic on wood	East wall subfloor horizontal beam	Layer 1: Black mastic Layer 2: black soft/elastic material	NAD NAD	SAT
40535.488 12/17/2021-02	Black mastic on wood	North wall subfloor horizontal beam	Layer 1: Black mastic Layer 2: black soft/elastic material	NAD NAD	SAT
40535.488 12/17/2021-03	Black mastic on wood	South wall subfloor horizontal beam	Layer 1: Black mastic Layer 2: black soft/elastic material	NAD NAD	SAT
40535.488 2022/1/27-01	Black mastic – Fire alarm coating	Near Rm. O260	Layer 1: Black mastic with paint	4% Chrysotile	SAT
40535.488 2022/1/27-02	Black vapor barrier	O267 Restroom – under ceramic floor tile	Layer 1: Black asphaltic material with paint Layer 2: Black asphaltic fibrous material Layer 3: Black asphaltic fibrous material	NAD NAD NAD	SAT
40535.488 2022/1/27-03	Black asphaltic debris	Lv. 2 column cavity – Near west skybridge	Layer 1: Black asphaltic fibrous material Layer 2: Black asphaltic fibrous material Layer 3: Black asphaltic material	NAD NAD NAD	SAT
40535.488 2022/1/27-04	Black asphaltic debris	Lv2. Column cavity – Near 270 – SW	Layer 1: Black asphaltic material Layer 2: Black asphaltic fibrous material	NAD NAD	SAT
40535.488 2022/2/2-01	Concealed woven fabric	Room O265 – North wall	Layer 1: Off-white woven fibrous material	NAD	SAT
40535.488 2/7/22-01	White leveling compound	Level 2 hall ramp near 275	Layer 1: White brittle material Layer 2: Trace yellow mastic	NAD NAD	SAT
40535.488 2/7/22-02	Yellow/brown carpet mastic white leveling compound,	Level 2 hall ramp near 275	Layer 1: Gray sandy/brittle material Layer 2: Trace white brittle material with paint	NAD NAD	SAT

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>
	Concrete,		Layer 3: Brown mastic	NAD	
40535.488 2/7/22-03	Black asphaltic material	Level 2 Restrooms below ceramic floor tile	Layer 1: Black asphaltic material Layer 2: Black asphaltic fibrous material Layer 3: Black asphaltic material Layer 4: Black asphaltic fibrous material Layer 5: Black asphaltic material Layer 6: Black asphaltic fibrous material	NAD NAD NAD NAD NAD NAD	SAT
40535.488 2/17/22-01	Asphalt	South elevation northeast of Robin's Nest	Layer 1: Black asphaltic material Layer 2: Gray hard sandy/brittle material	NAD NAD	SAT
40535.488 2/17/22-02	Asphalt	South elevation northwest of Robin's Nest	Layer 1: Black asphaltic material Layer 2: Gray hard sandy/brittle material	NAD NAD	SAT
40535.488 2/17/22-03	Grey sealant	Room 283 pan decking above west concrete masonry unit wall	Layer 1: Gray soft material	NAD	SAT
40535.488 2/17/22-04	Grey sealant	Room 283 east column	Layer 1: Gray/off-white soft/elastic material with paint Layer 2: Trace off-white foamy material Layer 3: Orange/brown brittle material	NAD NAD NAD	SAT
40535.488 2/17/22-05	Grey sealant	Room 283 south column	Layer 1: Gray soft/elastic material with paint Layer 2: Gray sandy/brittle material	NAD NAD	SAT
40535.488 3/1/22-001	Asphaltic roofing	LVL 2 above concrete ceiling below pan decking northeast opening	Layer 1: Black asphaltic material Layer 2: Black asphaltic material with fibrous material	NAD NAD	SAT
40535.488 3/7/22-001	Insulation	278 ceiling above pan decking	Layer 1: Black soft/elastic material with fibrous material Layer 2: Black fibrous material	NAD NAD	SAT
40535.488 3/7/22-002	Caulking	Level 2 mechanical mezzanine along southern edge	Layer 1: Off-white soft material Layer 2: Brown fibrous material	NAD NAD	SAT

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>
			Layer 3: Gray brittle material	NAD	
40535.488 3/16/22-01	Residual black mastic	Level 2 near east wall of below previous Rm 264 casework	Layer 1: Black asphaltic material	4% Chrysotile	SAT
40535.488 3/16/22-02	Black brittle material	Level 2 below west wall studs previous Rm 264	Layer 1: Black asphaltic material	3% Chrysotile	SAT
40535.488 3/16/22-03	Gypsum wallboard vapor barrier	Level 1 north exterior wall from inside	Layer 1: White chalky material with paper Layer 2: Gray fibrous material	NAD	SAT
40535.488 3/16/22-04	Gypsum wallboard	Level 2 east wall north of skybridge doors	Layer 1: White chalky material with paper	NAD	SAT
40535.488 3/18/22-01	Residual black mastic	Previous Rm 171 southeast column on concrete	Layer 1: Black mastic	3% Chrysotile	SAT
40535.488 3/18/22-02	Residual black mastic White leveling compound	Previous Rm 283 center area	Layer 1: Black mastic Layer 2: White brittle material with paint	NAD NAD	SAT
40535.488 3/18/22-03	Residual black mastic	West windows on base plate	Layer 1: Black asphaltic material with fibrous material	NAD	SAT
40535.488 3/18/22-04	Residual black mastic	West windows on concrete below base plate	Layer 1: Black mastic	3% Chrysotile	SAT
40535.488 3/18/22-05	Residual black mastic	Previous Rm 270 near slab step up	Layer 1: Black asphaltic material with fibrous material	NAD	SAT
40535.488 3/22/22-01	Black Rubbery Material	Flower Bed W of Ramp SW of the Building	Layer 1: Black rubbery material Layer 2: Clear mastic	NAD NAD	SAT
40535.488 3/23/22-01	Concrete	E Elevation N Skybridge Containment	Layer 1: Gray sandy/brittle material	NAD	SAT
40535.488 3/23/22-02	Roofing Tar	E Elevation N Skybridge Containment	Layer 1: Black asphaltic material	NAD	SAT

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>	
			Layer 2: Trace yellow fibrous material	NAD		
40535.488	3/23/22-03	Gray Mastic	E Elevation N Skybridge Containment	Layer 1: Trace beige sandy/brittle material	NAD	SAT
			Layer 2: Gray sandy/brittle material with paint	NAD		
			Layer 3: White foamy material	NAD		
40535.488	3/29/22-01	Black brittle material	Level 3 north west area sub floor below concrete	Layer 1: Black asphaltic material	NAD	SAT
40535.488	3/29/22-02	Black vapor barrier	Level 2 base of CMU wall previous Room 283A	Layer 1: Black asphaltic fibrous material	NAD	SAT
40535.488	4/7/22/-01	Joint Compound	W of 168 Ext. Door S column S side	Layer 1: White compacted powdery material with paint	NAD	NVL
		Joint Compound		Layer 2: White compacted powdery material with paper	NAD	
		Gypsum wallboard		Layer 3: Off-white chalky material with paper	NAD	
		Gypsum wallboard		Layer 4: White chalky material with paper	NAD	
40535.488	4/7/22/-02	Joint Compound	S Elev. Center column S side	Layer 1: Off-white compacted powdery material with paint	2%	NVL
		Gypsum wallboard		Layer 2: Brown chalky material with paper	Chrysotile	
		Gypsum wallboard		Layer 3: Off-white chalky material with paper	NAD	
		Gypsum wallboard		Layer 4: White chalky material with paper	NAD	
40535.488	4/7/22/-03	Joint Compound	E Elev. S column E side	Layer 1: Off-white compacted powdery material with paint	2%	NVL
		Gypsum wallboard		Layer 2: Brown chalky material with paper	Chrysotile	
		Gypsum wallboard		Layer 3: Off-white chalky material with paper	NAD	
		Gypsum wallboard		Layer 4: White chalky material with paper	NAD	
40535.488	4/7/22/-04	Joint Compound	S stairwell column W side	Layer 1: Off-white compacted powdery material with paint	2%	NVL
		Joint Compound		Layer 2: Off-white compacted powdery material with paper	Chrysotile	
					2%	
					Chrysotile	

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>
	Gypsum wallboard		Layer 3: White chalky material with paper	NAD	
40535.488 4/7/22/-05	Joint Compound	Room 164 SE column N side inside building	Layer 1: White compacted powdery material with paint	NAD	NVL
	Joint Compound		Layer 2: White compacted powdery material with paper	NAD	
	Gypsum wallboard		Layer 3: White chalky material with paper	NAD	
	Gypsum wallboard		Layer 4: White chalky material with paper	NAD	
40535.488 4/7/22/-06	Joint Compound	S Elev. W column E side	Layer 1: Off-white compacted powdery material with paint	2%	NVL
	Joint Compound		Layer 2: Off-white compacted powdery material with paper	2%	Chrysotile
	Gypsum wallboard		Layer 3: White chalky material with paper	NAD	Chrysotile
40535.488 4/7/22/-07	Joint Compound	S of ECE double door S column S side inside building	Layer 1: White compacted powdery material with paper	NAD	NVL
40535.488 4/7/22/-08	Plaster	N Elevation Ext. from interior	Layer 1: Gray sandy/brittle material with paper	NAD	NVL
40535.488 4/7/22/-09	Cementitious Material	N wall on back of EFIS from interior	Layer 1: Grey cementitious material with debris	NAD	NVL
40535.488 4/7/22/-10	Yellow carpet mastic	East stairwell level 1	Layer 1: Yellow brittle mastic	NAD	NVL
40535.488 4/7/22/-11	Yellow carpet mastic	East stairwell level 3	Layer 1: Yellow brittle mastic	NAD	NVL
40535.488 4/7/22/-12	Yellow stair tread mastic	East stairwell level 2 going down	Layer 1: Beige/yellow soft mastic	NAD	NVL
40535.488 4/7/22/-13	Yellow stair tread mastic	East stairwell level 3 going down	Layer 1: Yellow soft mastic	NAD	NVL
40535.488 4/7/22/-14	Tan cove base mastic	East stairwell level 1 west wall	Layer 1: Off-white soft mastic	NAD	NVL
			Layer 2: White compacted powdery material	NAD	
40535.488 4/7/22/-15	Joint compound	East stairwell level 1 northeast corner under stairs	Layer 1: White compacted powdery material with paint	NAD	NVL

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>	
			Layer 2: White compacted powdery material with paper	NAD		
			Layer 3: White chalky material with paper	NAD		
40535.488	4/7/22/-16	Joint compound	East stairwell level 3 northeast corner	Layer 1: White compacted powdery material with paint	NAD	NVL
		Joint compound		Layer 2: White compacted powdery material with paper	NAD	
		Gypsum wallboard		Layer 3: White chalky material with paper	NAD	
40535.488	4/12/22-1	Gypsum wallboard caulking	E Elevation Column N of double doors S side	Layer 1: Beige fibrous material with paint Layer 2: Gray rubbery material	NAD NAD	NVL
40535.488	4/12/22-2	Gypsum wallboard caulking	E Elevation Column S of double doors N side	Layer 1: Beige fibrous material with paint Layer 2: Gray rubbery material	NAD NAD	NVL
40535.488	4/13/22/-1	Gray sealant Gray sealant	Level 3 supply plenum SW penetration under I beam	Layer 1: Gray rubbery material with paint Layer 2: Gray soft mastic	NAD NAD	NVL
40535.488	4/13/22/-2	Gray sealant fibrous material	Level 3 supply plenum SW penetration under I beam	Layer 1: Gray rubbery material Layer 2: Black fibrous material	NAD NAD	NVL
40535.488	4/20/22-1	White leveling compound	Level 1 northeast crack in slab	Layer 1: White crumbly material	NAD	NVL
40535.488	4/20/22-2	White leveling compound	Level 1 northeast area in slab	Layer 1: White crumbly material	NAD	NVL
40535.488	5/5/22-PLM01	Marble Crete	Olympic S Level 3 S wall W side	Grey granular homogenous material	NAD	ALS
40535.488	5/5/22-PLM02	Marble Crete	Olympic S Level 3 S wall E side	Grey granular homogenous material	NAD	ALS
40535.488	5/5/22-PLM03	Marble Crete	Olympic S Level 2 Stairwell near doorway	Grey granular homogenous material	NAD	ALS
40535.488	5/5/22-PLM04	Marble Crete	Olympic S Level 1 Stairwell near N penetration	Grey granular homogenous material	NAD	ALS

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>
40535.488 5/5/22-PLM05	Marble Crete	Olympic S Exterior S elev. W side	Grey granular homogenous material	NAD	ALS
40535.488 5/5/22-PLM06	Marble Crete	Olympic S Exterior SE corner E column	Grey granular homogenous material	NAD	ALS
40535.488 5/10/22-1	Red Fire Caulking	Level 3 Stairwell along pan decking and I beam	Layer 1: Red soft/elastic material with fibrous material	NAD	SAT
40535.488 5/10/22-2	Red Fire Caulking	Level 3 Stairwell along pan decking and I beam	Layer 1: Red soft/elastic material with fibrous material	NAD	SAT
40535.488 6/17/22-01	Gasket	Level 1 mechanical room fire sprinkler main	Layer 1: Black soft/elastic material with paint & debris	NAD	NVL
40535.488 6/17/22-02	Black paper backing	Level 2 east wall second column south back of Marble Crete	Layer 1: Black asphaltic fibrous material with paint	NAD	NVL
40535.488 6/17/22-03	Black soft caulk	Level 1 northwest base of window below stairs	Layer 1: Black soft/elastic material with debris	NAD	NVL
40535.488 6/17/22-04	Soft grey caulk grey caulk	Level 1 north window center area	Layer 1: Gray soft material with paint & debris Layer 2: Gray brittle material with debris	7% Chrysotile 9% Chrysotile	NVL
40535.488 6/17/22-05	Grey sealant	Level 1 southwest window rough opening	Layer 1: Dark gray brittle material with debris	6% Chrysotile	NVL
40535.488 6/17/22-06	White sealant	Level 1 southwest window rough opening	Layer 1: White brittle material with debris	NAD	NVL
40535.488 6/17/22-07	White caulk Grey caulk	Level 1 south west window	Layer 1: White soft/elastic material with debris Layer 2: Dark gray soft/elastic material with debris	NAD NAD	NVL
40535.488 6/17/22-08	Residual white exterior window caulk	South elevation level 1 base of window	Layer 1: Off-white brittle material with debris	6% Chrysotile	NVL

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>
40535.488 6/17/22-09	Soft tan caulk	East elevation top of window wall	Layer 1: Tan soft/elastic material with paint & debris	NAD	NVL
40535.488 6/17/22-10	Soft grey caulk	West elevation window	Layer 1: Gray soft/elastic material with debris	NAD	NVL
40535.488 6/17/22-11	Grey caulk	North elevation top of level 1 window	Layer 1: Gray brittle material with debris	NAD	NVL
40535.488 6/17/22-12	Soft tan caulk	North elevation level 2 window	Layer 1: Tan soft/elastic material with paint & debris	NAD	NVL
40535.488 6/17/22-13	Soft grey caulk grey brittle material	West elevation under skybridge penetration	Layer 1: Gray soft/elastic material with debris Layer 2: Gray brittle material with debris	NAD NAD	NVL
40535.488 7/5/22-01	Brown sealant	Level 1 west wall north center window rough opening	Layer 1: Brown soft material	5% Chrysotile	NVL
40535.488 7/5/22-02	Brown sealant	Level 1 west wall south center window rough opening	Layer 1: Brown soft material	6% Chrysotile	NVL

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:	Gregg Middaugh, Claire Tsai	Date Analyzed:	9/8/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Olympic South Abatement and Repairs
Tel:	206.233.9639	Laboratory batch#:	202111229
Date Report Issued:	9/8/2021	Samples Received:	1

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

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.: Gregg Middaugh, Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.488
Batch#: 202111229
Date Received: 9/7/2021
Samples Rec'd: 1
Date Analyzed: 9/8/2021
Samples Analyzed: 1
Project Loc.: Olympic South Abatement and Repairs

Analyzed by: *C. Yen*
 Approved Signatory: *Steve (Fanyao) Zheng*, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-9/7/2021-01	1	Brown mastic		None detected	Mastic/binder	2	Cellulose
		2	Silver foil		None detected	Foil/binder		None detected
		3	Off-white mastic		None detected	Mastic/binder	3	Cellulose

SEATTLE ASBESTOS TEST, LLC

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www.seattleasbestos.com, admin@seattleasbestos.com

Project Manager: Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed: 9/21/2021
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement and Repairs
Tel: 206.233.9639	Laboratory batch#: 202111330
Date Report Issued: 9/21/2021	Samples Received: 2

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Gregg Middaugh,
 Attn: Claire Tsai, Michael Smith
 Client: PBS Engineering and Environmental, Seattle
 Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.488
 Batch#: 202111330
 Date Received: 9/20/2021
 Samples Rec'd: 2
 Date Analyzed: 9/21/2021
 Samples Analyzed: 2
 Project Loc.: Pierce College Olympic South Abatement and Repairs

Analyzed by: 
Carolyn Yeo

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-9/20/2021-01	1	Tan/yellow mastic		None detected	Mastic/binder	3	Cellulose
2	40535.488-9/20/2021-02	1	Tan/yellow mastic		None detected	Mastic/binder	3	Cellulose

SEATTLE ASBESTOS TEST, LLC

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www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager:	Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed:	9/22/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA. 98102	Project Location:	Pierce College Olympic South Abatement & Repairs
Tel:	206.233.9639	Laboratory batch#:	202111339
Date Report Issued:	9/22/2021	Samples Received:	3

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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]

Gregg Middaugh, Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Attn: Claire Tsai, Michael Smith
 Job#: 40535.488 Batch#: 202111339 Date Received: 9/21/2021
 Samples Rec'd: 3 Date Analyzed: 9/22/2021 Samples Analyzed: 3
 Project Loc.: Pierce College Olympic South Abatement & Repairs

Analyzed by:  Carolyn Yeo
 Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-9/21/2021-01	1	Tan/yellow mastic		None detected	Mastic/binder	2	Cellulose
2	40535.488-9/21/2021-02	1	Tan/yellow mastic		None detected	Mastic/binder	2	Cellulose
3	40535.488-9/21/2021-03	1	White brittle material		None detected	Binder, Filler	3	Cellulose

SEATTLE ASBESTOS TEST, LLC

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Project Manager: Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed: 9/27/2021
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement and Repairs.
Tel: 206.233.9639	Laboratory batch#: 202111366
Date Report Issued: 9/27/2021	Samples Received: 2

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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: 200766-0

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

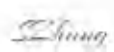
ANALYTICAL LABORATORY REPORT

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

[PLM] EPA

Attn: Gregg Middaugh, Claire Tsai, Michael Smith
 Client: PBS Engineering and Environmental, Seattle
 Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.488
 Batch#: 202111366
 Date Received: 9/24/2021
 Samples Rec'd: 2
 Date Analyzed: 9/27/2021
 Samples Analyzed: 2
 Project Loc.: Pierce College Olympic South Abatement and Repairs

Analyzed by:  Carolyn Yeo

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-9/23/2021-01	1	White/gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
2	40535.488-9/23/2021-02	1	White sandy/brittle material		None detected	Sand, Filler, Binder	2	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

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Project Manager:	Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed:	9/28/2021
Client:	PBS Engineering and Environmental	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Abatement & Repairs
Tel:	206.233.9639	Laboratory batch#:	202111375
Date Report Issued:	9/28/2021	Samples Received:	5

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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; [PLM]
 EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn: Gregg Middaugh, Claire Tsai, Michael Smith
 Client: PBS Engineering and Environmental
 Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.488
 Batch#: 202111375
 Date Received: 9/27/2021
 Samples Rec'd: 5
 Date Analyzed: 9/28/2021
 Samples Analyzed: 5
 Project Loc.: Pierce College Olympic South Abatement & Repairs

Analyzed by: Carolyn Yeo
 Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-9/24/2021-01	1	Dust		None detected	Fine particles, Debris, Filler	2	Cellulose, Synthetic fibers
2	40535.488-9/24/2021-02	2	Dust		None detected	Fine particles, Debris, Filler	2	Cellulose, Synthetic fibers
3	40535.488-9/24/2021-03	3	Dust		None detected	Fine particles, Debris, Filler	3	Cellulose, Synthetic fibers
4	40535.488-9/24/2021-04	4	Dust		None detected	Fine particles, Debris, Filler	2	Cellulose, Synthetic fibers
5	40535.488-9/24/2021-05	5	Dust		None detected	Fine particles, Debris, Filler	5	Cellulose, Synthetic fibers

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: 200765-0

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager:	Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed:	10/1/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Abatement & Repairs
Tel:	206.233.9639	Laboratory batch#:	202111417
Date Report Issued:	10/1/2021	Samples Received:	2

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.

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Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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; [PLM]
 EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn: Gregg Middaugh, Claire Tsai, Michael Smith
 Client: PBS Engineering and Environmental, Seattle
 Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.488
 Batch#: 202111417
 Date Received: 9/30/2021
 Samples Rec'd: 2
 Date Analyzed: 10/1/2021
 Samples Analyzed: 2
 Project Loc.: Pierce College Olympic South Abatement & Repairs

Analyzed by: 
 Carolyn Yoo

Approved Signatory: 
 Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-9/29/2021-01	1	Tan/yellow mastic		None detected	Mastic/binder	3	Cellulose
2	40535.488-9/29/2021-02	1	Tan/yellow mastic		None detected	Mastic/binder	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.seattleasbestos.com, admin@seattleasbestos.com

Project Manager:	Gregg Middaugh, Peter Stenland, Claire Tsai, Michael Smith, Cameron Budnick	Date Analyzed:	12/20/2021
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Olympic South Abatement and Repairs
Tel:	206.233.9639	Laboratory batch#:	202111999
Date Report Issued:	12/20/2021	Samples Received:	3

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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

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: Gregg Middaugh,
Peter Stensland,
Claire Tsai, Michael
Smith, Cameron
Budnick

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202111999

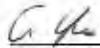
Date Received: 12/20/2021


Samples Rec'd: 3

Date Analyzed: 12/20/2021

Samples Analyzed: 3

Project Loc.: Olympic South Abatement and
Repairs

Analyzed by:  Carolyn Yea

Approved Signatory:  Fanyao Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488- 12/17/2021-01	1	Black mastic		None detected	Mastic/binder	2	Cellulose
		2	Black soft/elastic material		None detected	Binder, Filler	2	Cellulose
2	40535.488- 12/17/2021-02	1	Black mastic		None detected	Mastic/binder	2	Cellulose
		2	Black soft/elastic material		None detected	Binder, Filler	3	Cellulose
3	40535.488- 12/17/2021-03	1	Black mastic		None detected	Mastic/binder	3	Cellulose
		2	Black soft/elastic material		None detected	Binder, Filler	2	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.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed: 1/28/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Apartment & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209091
Date Report Issued: 1/28/2022	Samples Received: 4

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.

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Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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;
600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn.: Gregg Middaugh,
Claire Tsai, Michael
Smith

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209091

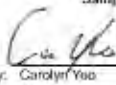
Date Received: 1/27/2022


Samples Rec'd: 4

Date Analyzed: 1/28/2022

Samples Analyzed: 4

Project Loc.: Pierce College Olympic South
Apartment & Repairs

Analyzed by:  Carolyn Yoo

Approved Signatory:  Steve (Fenyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-2022/1/27-01	1	Black mastic with paint	4	Chrysotile	Mastic/binder, Paint	2	Cellulose
2	40535.488-2022/1/27-02	1	Black asphaltic material with paint		None detected	Asphalt/binder, Paint	3	Cellulose
		2	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	68	Cellulose, Glass fibers
		3	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	66	Cellulose, Glass fibers
3	40535.488-2022/1/27-03	1	Black asphaltic material		None detected	Asphalt/binder	2	Cellulose
		2	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	65	Cellulose
		3	Black asphaltic material		None detected	Asphalt/binder	2	Cellulose
4	40535.488-2022/1/27-04	1	Black asphaltic material		None detected	Asphalt/binder	2	Cellulose
		2	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	61	Cellulose

SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.873.9850, Fax: 425.873.9810, NVLAP Lab Code: 200768-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager: Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed: 2/4/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement and Repairs
Tel: 206.233.9639	Laboratory batch#: 202209159
Date Report Issued: 2/4/2022	Samples Received: 1

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed: 2/4/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535,488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement and Repairs
Tel: 206.233.9639	Laboratory batch#: 202209159
Date Report Issued: 2/4/2022	Samples Received: 1

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.

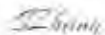
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Steve (Fanyao) Zhang
Approved Signatory

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;
800/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

[PLM] EPA

Attn: Gregg Middaugh,
Claire Tsai, Michael
Smith

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209159


Date Received: 2/3/2022

Samples Rec'd: 1

Date Analyzed: 2/4/2022

Samples Analyzed: 1

Project Loc.: Pierce College Olympic South
Abatement and Repairs

Analyzed by:  Carolyn Yeo

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488- 2022/2/2-01	1	Off-white woven fibrous material		None detected	Filler	87	Synthetic fibers

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-d

www.seattleasbestosest.com, admin@seattleasbestosest.com

Project Manager: Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed: 2/10/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 10535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209211
Date Report Issued: 2/10/2022	Samples Received: 3

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.

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Sincerely



Steve (Fanyao) Zhang
Approved Signatory

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.8850, 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: Gregg Middaugh,
Claire Tsai, Michael
Smith

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209211

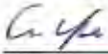
Date Received: 2/9/2022

Samples Rec'd: 3

Date Analyzed: 2/10/2022

Samples Analyzed: 3

Project Loc.: Pierce College Olympic South
Abatement & Repairs.

Analyzed by: 
Carolyn Yeo

Approved Signatory: 
Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488- 2/7/22-01	1	White brittle material		None detected	Binder, Filler	2	Cellulose
		2	Trace yellow mastic		None detected	Mastic/binder	2	Cellulose
2	40535.488- 2/7/22-02	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
		2	Trace white brittle material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		3	Brown mastic		None detected	Mastic/binder	2	Cellulose
3	40535.488- 2/7/22-03	1	Black asphaltic material		None detected	Asphalt/binder	2	Cellulose
		2	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	65	Cellulose
		3	Black asphaltic material		None detected	Asphalt/binder	3	Cellulose
		4	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	61	Cellulose
		5	Black asphaltic material		None detected	Asphalt/binder	2	Cellulose
		6	Black asphaltic fibrous material		None detected	Asphalt/binder, Filler	68	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: Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed: 2/21/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209320
Date Report Issued: 2/21/2022	Samples Received: 5

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.

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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

202209320



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement & Repairs

Project #: 40535.488

Analysis requested: PLM

Date: 2/17/2022

Relinq'd by/Signature: *Charlie Foster*

Date/Time: 2/17/2022

Received by/Signature: *Carolyn Yea*

Date/Time: 2/18/22 13:08

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-2/17/22-01	Asphalt	South Elevation northeast of Robin's Nest	SAT
40535.488-2/17/22-02	Asphalt	South Elevation northwest of Robin's Nest	
-03	Grey sealant	Room 283 pane decking	above CMU wall West
-04	" "	Rm 283 East column	
-05	" "	Rm 283 South columns	

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: Gregg Middaugh, Claire Tsai, Michael Smith
 Client: PBS Engineering and Environmental, Seattle
 Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
 Job#: 40535.488
 Batch#: 202209320
 Date Received: 2/18/2022
 Samples Rec'd: 5
 Date Analyzed: 2/21/2022
 Samples Analyzed: 5
 Project Loc.: Pierce College Olympic South Abatement & Repairs

C. Yeo

S. Zhang

Analyzed by: Carolyn Yeo

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-2/17/22-01	1	Black asphaltic material		None detected	Asphalt/binder	3	Cellulose
		2	Gray hard sandy/brittle material		None detected	Sand, Filler, Cement/binder	3	Cellulose
2	40535.488-2/17/22-02	1	Black asphaltic material		None detected	Asphalt/binder	3	Cellulose
		2	Gray hard sandy/brittle material		None detected	Sand, Filler, Cement/binder	2	Cellulose
3	40535.488-2/17/22-03	1	Gray soft material		None detected	Binder, Filler	2	Cellulose
4	40535.488-2/17/22-04	1	Gray/off-white soft/elastic material with paint		None detected	Binder, Filler, Paint	3	Cellulose
		2	Trace off-white foamy material		None detected	Synthetic foam		None detected
		3	Orange/brown brittle material		None detected	Binder, Filler	2	Cellulose
5	40535.488-2/17/22-05	1	Gray soft/elastic material with paint		None detected	Binder, Filler, Paint	2	Cellulose
		2	Gray sandy/brittle material		None detected	Sand, Filler, Binder	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-D

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager: Gregg Middaugh, Michael Smith	Date Analyzed: 3/2/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209411
Date Report Issued: 3/2/2022	Samples Received: 1

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.

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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

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.: Gregg Middaugh,
Michael Smith

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209411

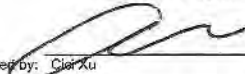
Date Received: 3/1/2022


Samples Rec'd: 1

Date Analyzed: 3/2/2022

Samples Analyzed: 1

Project Loc.: Pierce College Olympic South
Abatement & Repairs

Analyzed by:  Clara Xu

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488- 3/1/22-001	1	Black asphaltic material		None detected	Asphalt/binder	25	Glass fibers
		2	Black asphaltic material with fibrous material		None detected	Asphalt/binder, Filler	23	Synthetic fibers, 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:	Gregg Middaugh, Peter Stensland, Claire Tsai, Michael Smith	Date Analyzed:	3/8/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535,488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Abatement & Repairs
Tel:	206.233.9639	Laboratory batch#:	202209468
Date Report Issued:	3/8/2022	Samples Received:	2

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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.: Gregg Middaugh,
Peter Stensland,
Claire Tsai, Michael
Smith
Client: PBS Engineering and
Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.488
Batch#: 202209468
Date Received: 3/7/2022
Samples Rec'd: 2
Date Analyzed: 3/8/2022
Samples Analyzed: 2
Project Loc.: Pierce College Olympic South
Abatement & Repairs

Analyzed by: 
Carolyn Yeo/Xingping Lin

Approved Signatory: 
Steve (Fanyao) Zheng, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-3/7/22-001	1	Black soft/elastic material with fibrous material		None detected	Binder, Filler	12	Cellulose
		2	Black fibrous material		None detected	Filler	89	Glass fibers
2	40535.488-3/7/22-002	1	Off-white soft material		None detected	Binder, Filler	3	Cellulose
		2	Brown fibrous material		None detected	Filler	86	Cellulose
		3	Gray brittle material		None detected	Binder, Filler	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:	Gregg Middaugh, Claire Tsai, Michael Smith	Date Analyzed:	3/17/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40535.488
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Pierce College Olympic South Abatement & Repairs
Tel:	206.233.9639	Laboratory batch#:	202209542
Date Report Issued:	3/17/2022	Samples Received:	4

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.

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

Sincerely



Steve (Fanyao) Zhang
Approved Signatory

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.: Gregg Middaugh,
Claire Tsai, Michael
Smith

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209542

Date Received: 3/17/2022

Samples Rec'd: 4

Date Analyzed: 3/17/2022

Samples Analyzed: 4

Project Loc.: Pierce College Olympic South
Abatement & Repairs

Analyzed by:  Xingping Lin

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488 -3 /16/22-01	1	Black asphaltic material	4	Chrysotile	Asphalt/binder	3	Cellulose
2	40535.488 -3 /16/22-02	1	Black asphaltic material	3	Chrysotile	Asphalt/binder	5	Cellulose
3	40535.488 -3 /16/22-03	1	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose, Glass fibers
		2	Gray fibrous material		None detected	Binder/filler	65	Cellulose
4	40535.488 -3 /16/22-04	1	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	27	Cellulose, Glass fibers

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: Gregg Middaugh, Michael Smith, Claire Tsai	Date Analyzed: 3/23/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209577
Date Report Issued: 3/23/2022	Samples Received: 5

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.

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Sincerely



Steve (Fanyao) Zhang
Approved Signatory



202209577

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement & Repairs

Project #: 40535.488

Analysis requested: PLM

Date: 3/18/2022

Relinq'd by/Signature: Claire Tsai

Date/Time: 3/21/2022

Received by/Signature: [Signature]

Date/Time: 3/22/2022 15:20

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-3/18/22-01	Residual black mastic	Previous Rm 171 southeast column on concrete	SAT <i>Lynwood</i>
40535.488-3/18/22-02	Residual black mastic, white leveling compound	Previous Rm 283 center area	
40535.488-3/18/22-03	Residual black mastic	West windows on base plate	
40535.488-3/18/22-04	Residual black mastic	West windows on concrete below base plate	
40535.488-3/18/22-05	Residual black mastic	Previous Rm 270 near slab step up	

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.: Gregg Middaugh,
Michael Smith,
Claire Tsai

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209577

Date Received: 3/22/2022

Samples Rec'd: 5

Date Analyzed: 3/23/2022

Samples Analyzed: Cici Xu

Project Loc.: Pierce College Olympic South
Abatement & Repairs

Analyzed by: Cici Xu

Approved Signatory: Steve (Fanyao) Zhang, President



Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-3/18/22-01	1	Black mastic	3	Chrysotile	Mastic/binder	3	Cellulose
2	40535.488-3/18/22-02	1	Black mastic		None detected	Mastic/binder	4	Cellulose
		2	White brittle material with paint		None detected	Filler, Binder, Paint	2	Cellulose
3	40535.488-3/18/22-03	1	Black asphaltic material with fibrous material		None detected	Asphalt/binder, Filler	25	Cellulose
4	40535.488-3/18/22-04	1	Black mastic	3	Chrysotile	Mastic/binder	3	Cellulose
5	40535.488-3/18/22-05	1	Black asphaltic material with fibrous material		None detected	Asphalt/binder, Filler	24	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: Gregg Middaugh, Michael Smith, Claire Tsai	Date Analyzed: 3/23/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209578
Date Report Issued: 3/23/2022	Samples Received: 1

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

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]

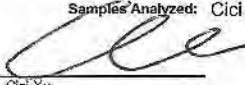
Attn.: Gregg Middaugh,
Michael Smith,
Claire Tsai
Job#: 40535.488
Samples Rec'd: 1
Project Loc.: Pierce College Olympic South
Abatement & Repairs


Client: PBS Engineering and
Environmental, Seattle

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

Batch#: 202209578
Date Analyzed: 3/23/2022

Date Received: 3/22/2022
Samples Analyzed: Cici Xu

Analyzed by:  Cici Xu

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488- 3/22/22-01	1	Black rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Clear mastic		None detected	Mastic/binder	2	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: Gregg Middaugh, Michael Smith	Date Analyzed: 3/25/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209595
Date Report Issued: 3/25/2022	Samples Received: 3

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

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: Gregg Middaugh, Michael Smith Client: PBS Engineering and Environmental, Seattle Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40535.488 Batch#: 202209595 Date Received: 3/24/2022
Samples Rec'd: 3 Date Analyzed: 3/25/2022 Samples Analyzed: 3
Project Loc.: Pierce College Olympic South Abatement & Repairs

Analyzed by: Cassie Huang  Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488-3/23/22-01	1	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
2	40535.488-3/23/22-02	1	Black asphaltic material		None detected	Asphalt/binder	7	Cellulose
		2	Trace yellow fibrous material		None detected	Filler	90	Glass fibers
3	40535.488-3/23/22-03	1	Trace beige sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
		2	Gray sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	3	Cellulose
		3	White foamy material		None detected	Synthetic foam		None detected

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: Claire Tsai, Michael Smith, Gregg Middaugh	Date Analyzed: 3/31/2022
Client: PBS Engineering and Environmental, Seattle	Client Job#: 40535.488
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location: Pierce College Olympic South Abatement & Repairs
Tel: 206.233.9639	Laboratory batch#: 202209662
Date Report Issued: 3/31/2022	Samples Received: 2

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

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.: Claire Tsai, Michael
Smith, Gregg
Middaugh

Client: PBS Engineering and
Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209662


Date Received: 3/30/2022

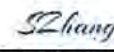
Samples Rec'd: 2

Date Analyzed: 3/31/2022

Samples Analyzed: 2

Project Loc.: Pierce College Olympic South
Abatement & Repairs

Analyzed by:  Xingping Lin

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488 -3 /29/22-01	1	Black asphaltic material		None detected	Asphalt/binder	6	Cellulose
2	40535.488 -3 /29/22-02	1	Black asphaltic fibrous material		None detected	Filler, Asphalt, Binder	67	Cellulose

April 8, 2022



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

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2206630.00

Client Project: 40535.488
Location: Pierce College Olympic South Abatement & Repairs

Dear Ms. Tsai,

Enclosed please find test results for the 9 sample(s) submitted to our laboratory for analysis on 4/8/2022.

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, followed by "LABS" in a smaller, outlined, sans-serif font.

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

Batch #: 2206630.00
Client Project #: 40535.488
Date Received: 4/8/2022
Samples Received: 9
Samples Analyzed: 9
Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai

Project Location: Pierce College Olympic South Abatement & Repairs

Lab ID: 22341257 Client Sample #: 40535.488-4/7/22-01

Location: Pierce College Olympic South Abatement & Repairs

Comments: Unsure of correct layer sequence.

Layer 1 of 4	Description: White compacted powdery material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
		Binder/Filler, Fine particles, Paint	Cellulose <1%		None Detected ND
Layer 2 of 4	Description: White compacted powdery material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
		Binder/Filler, Fine particles	Cellulose 26%		None Detected ND
Layer 3 of 4	Description: Off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
		Gypsum/Binder, Fine particles	Cellulose 21%		None Detected ND
			Glass fibers 9%		
Layer 4 of 4	Description: White chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
		Gypsum/Binder, Fine particles	Cellulose 22%		None Detected ND
			Glass fibers 5%		

Lab ID: 22341258 Client Sample #: 40535.488-4/7/22-02

Location: Pierce College Olympic South Abatement & Repairs

Comments: Unsure of correct layer sequence.

Layer 1 of 4	Description: Off-white compacted powdery material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Calcareous binder, Calcareous particles, Paint	Cellulose 2%	

Sampled by: Client

Analyzed by: Kunga Woser

Reviewed by: Nick Ly

Date: 04/08/2022

Date: 04/08/2022

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



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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

Batch #: 2206630.00
 Client Project #: 40535.488
 Date Received: 4/8/2022
 Samples Received: 9
 Samples Analyzed: 9
 Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai
 Project Location: Pierce College Olympic South Abatement & Repairs


Layer 2 of 4	Description: Brown chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Fine particles	Other Fibrous Materials:% Cellulose 20% Glass fibers 10%	Asbestos Type: % None Detected ND
Layer 3 of 4	Description: Off-white chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Fine particles	Other Fibrous Materials:% Cellulose 21% Glass fibers 9%	Asbestos Type: % None Detected ND
Layer 4 of 4	Description: White chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Fine particles	Other Fibrous Materials:% Cellulose 22% Glass fibers 5%	Asbestos Type: % None Detected ND

Lab ID: 22341259 **Client Sample #: 40535.488-4/7/22-03**

Location: Pierce College Olympic South Abatement & Repairs

Comments: Unsure of correct layer sequence.

Layer 1 of 4	Description: Off-white compacted powdery material with paint	Non-Fibrous Materials: Calcareous binder, Calcareous particles, Paint	Other Fibrous Materials:% Cellulose 2%	Asbestos Type: % Chrysotile 2%
Layer 2 of 4	Description: Brown chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Fine particles	Other Fibrous Materials:% Cellulose 21% Glass fibers 9%	Asbestos Type: % None Detected ND
Layer 3 of 4	Description: Off-white chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Fine particles	Other Fibrous Materials:% Cellulose 22%	Asbestos Type: % None Detected ND

Sampled by: Client	 <hr/> Nick Ly, Technical Director
Analyzed by: Kunga Woser	
Reviewed by: Nick Ly	
Date: 04/08/2022	
Date: 04/08/2022	

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



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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

Batch #: 2206630.00
 Client Project #: 40535.488
 Date Received: 4/8/2022
 Samples Received: 9
 Samples Analyzed: 9
 Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai
 Project Location: Pierce College Olympic South Abatement & Repairs

Layer 4 of 4	Description: White chalky material with paper	Glass fibers 8%	
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
	Gypsum/Binder, Fine particles	Cellulose 24%	None Detected ND
		Glass fibers 3%	

Lab ID: 22341260 Client Sample #: 40535.488-4/7/22-04

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 3	Description: Off-white compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
	Calcareous binder, Calcareous particles, Paint	Cellulose <1%	Chrysotile 2%


Layer 2 of 3	Description: Off-white compacted powdery material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
	Calcareous binder, Calcareous particles	Cellulose 24%	Chrysotile 2%

Layer 3 of 3	Description: White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
	Gypsum/Binder, Fine particles	Cellulose 21%	None Detected ND
		Glass fibers 7%	

Lab ID: 22341261 Client Sample #: 40535.488-4/7/22-05

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 4	Description: White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
	Calcareous binder, Calcareous particles, Paint	Cellulose 2%	None Detected ND

Sampled by: Client		
Analyzed by: Kunga Woser	Date: 04/08/2022	
Reviewed by: Nick Ly	Date: 04/08/2022	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 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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

Batch #: 2206630.00
Client Project #: 40535.488
Date Received: 4/8/2022
Samples Received: 9
Samples Analyzed: 9
Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai

Project Location: Pierce College Olympic South Abatement & Repairs

Layer 2 of 4	Description: White compacted powdery material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Calcareous binder, Calcareous particles	Cellulose 25%	None Detected ND
Layer 3 of 4	Description: White chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Gypsum/Binder, Fine particles, Metallic flakes	Cellulose 21%	None Detected ND
			Glass fibers 7%	
Layer 4 of 4	Description: White chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Gypsum/Binder, Fine particles, Metallic flakes	Cellulose 22%	None Detected ND
			Glass fibers 6%	

Lab ID: 22341262 **Client Sample #: 40535.488-4/7/22-06**

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 3	Description: Off-white compacted powdery material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Calcareous binder, Calcareous particles, Paint	Cellulose 2%	Chrysotile 2%
Layer 2 of 3	Description: Off-white compacted powdery material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Calcareous binder, Calcareous particles	Cellulose 24%	Chrysotile 2%
Layer 3 of 3	Description: White chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Gypsum/Binder, Fine particles	Cellulose 21%	None Detected ND
			Glass fibers 7%	

Sampled by: Client

Analyzed by: Kunga Woser

Reviewed by: Nick Ly

Date: 04/08/2022

Date: 04/08/2022

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



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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

Batch #: 2206630.00
Client Project #: 40535.488
Date Received: 4/8/2022
Samples Received: 9
Samples Analyzed: 9
Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai

Project Location: Pierce College Olympic South Abatement & Repairs

Lab ID: 22341263 Client Sample #: 40535.488-4/7/22-07

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 Description: White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Binder/Filler, Fine particles	Cellulose 25%	

None Detected ND

Lab ID: 22341264 Client Sample #: 40535.488-4/7/22-08

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 Description: Gray sandy/brittle material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Binder/Filler, Sand, Granules	Cellulose 21%	

None Detected ND

Lab ID: 22341265 Client Sample #: 40535.488-4/7/22-09

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 Description: Gray cementitious material with debris

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Cement/Binder, Cementitious particles, Granules	Cellulose <1%	
Debris		

None Detected ND

Sampled by: Client

Analyzed by: Kunga Woser

Reviewed by: Nick Ly

Date: 04/08/2022

Date: 04/08/2022

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

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Seattle Address 214 E Galer St. Suite. 300 Seattle, WA 98102 Project Manager Ms. Claire Tsai Phone (206) 233-9639	NVL Batch Number 2206630.00 TAT 4 Hrs AH No Rush TAT Due Date 4/8/2022 Time 12:00 PM Email claire.tsai@pbsusa.com Fax (866) 727-0140
---	--

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement & Repairs

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

Total Number of Samples 9 **Rush Samples** _____

	Lab ID	Sample ID	Description	A/R
1	22341257	40535.488-4/7/22-01		A
2	22341258	40535.488-4/7/22-02		A
3	22341259	40535.488-4/7/22-03		A
4	22341260	40535.488-4/7/22-04		A
5	22341261	40535.488-4/7/22-05		A
6	22341262	40535.488-4/7/22-06		A
7	22341263	40535.488-4/7/22-07		A
8	22341264	40535.488-4/7/22-08		A
9	22341265	40535.488-4/7/22-09		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/8/22	800
Analyzed by	Kunga Woser		NVL	4/8/22	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 4/8/2022
 Time: 8:19 AM
 Entered By: Kelly AuVu



Project: Pierce College Olympic South Abatement & Repairs

Project #: 40535.488

Analysis requested: PLM

Date: 4/7/2022

Relinqu'd by/Signature: Claire Tsai

Date/Time: 4/7/2022

Received by/Signature: Keenan [unclear]

Date/Time: 4/18/22 5:00 PM

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-4/7/22-01	GWB / JC	W of 168 Ext. Door S column S side	NVL
40535.488-4/7/22-02	GWB / JC	S Elev. Center column S side	
40535.488-4/7/22-03	GWB / JC	E Elev. S column E side	
40535.488-4/7/22-04	GWB / JC	S stairwell column W side	
40535.488-4/7/22-05	GWB / JC	Room 164 SE column N side inside building	
40535.488-4/7/22-06	GWB / JC	S Elev. W column E side	
40535.488-4/7/22-07	Joint Compound	S of ECE double door S column S side inside building	
40535.488-4/7/22-08	Plaster	N Elevation Ext. from interior	
40535.488-4/7/22-09	Cementitious Material	N wall on back of EFIS from interior	

April 8, 2022



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

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2206631.00

Client Project: 40535.488
Location: Pierce College Olympic South Abatement & Repairs

Dear Ms. Tsai,

Enclosed please find test results for the 7 sample(s) submitted to our laboratory for analysis on 4/8/2022.

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, followed by "LABS" in a smaller, outlined, sans-serif font.

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

Batch #: 2206631.00
 Client Project #: 40535.488
 Date Received: 4/8/2022
 Samples Received: 7
 Samples Analyzed: 7
 Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai
 Project Location: Pierce College Olympic South Abatement & Repairs

Lab ID: 22341266 Client Sample #: 40535.488-4/7/22-10

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 **Description:** Yellow brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder, Fine grains, Fine particles	Cellulose 3%	None Detected ND

Lab ID: 22341267 Client Sample #: 40535.488-4/7/22-11

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 **Description:** Yellow brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder, Fine grains, Fine particles	Synthetic fibers 14%	None Detected ND

Lab ID: 22341268 Client Sample #: 40535.488-4/7/22-12

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 **Description:** Beige/yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder, Fine particles	None Detected ND	None Detected ND

Lab ID: 22341269 Client Sample #: 40535.488-4/7/22-13

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 **Description:** Yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder, Fine particles	None Detected ND	None Detected ND

Lab ID: 22341270 Client Sample #: 40535.488-4/7/22-14

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 2 **Description:** Off-white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder, Fine particles	None Detected ND	None Detected ND

Sampled by: Client

Analyzed by: Akane Yoshikawa

Reviewed by: Nick Ly

Date: 04/08/2022

Date: 04/08/2022

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



Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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

Batch #: 2206631.00
Client Project #: 40535.488
Date Received: 4/8/2022
Samples Received: 7
Samples Analyzed: 7
Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai

Project Location: Pierce College Olympic South Abatement & Repairs

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

Lab ID: 22341271 **Client Sample #: 40535.488-4/7/22-15**

Location: Pierce College Olympic South Abatement & Repairs

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

Layer 2 of 3	Description: White compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	Cellulose	8%	None Detected ND

Layer 3 of 3	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose	16%	None Detected ND
		Glass fibers	7%	

Lab ID: 22341272 **Client Sample #: 40535.488-4/7/22-16**

Location: Pierce College Olympic South Abatement & Repairs

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

Sampled by: Client

Analyzed by: Akane Yoshikawa

Reviewed by: Nick Ly

Date: 04/08/2022

Date: 04/08/2022

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



Bulk Asbestos Fibers Analysis


By Polarized Light Microscopy

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

Batch #: 2206631.00
Client Project #: 40535.488
Date Received: 4/8/2022
Samples Received: 7
Samples Analyzed: 7
Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai
Project Location: Pierce College Olympic South Abatement & Repairs

Layer 2 of 3	Description: White compacted powdery material with paper	Non-Fibrous Materials: Binder/Filler, Fine grains, Fine particles	Other Fibrous Materials:% Cellulose 7%	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 18% Glass fibers 6%	Asbestos Type: % None Detected ND

Sampled by: Client		
Analyzed by: Akane Yoshikawa	Date: 04/08/2022	
Reviewed by: Nick Ly	Date: 04/08/2022	_____ 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 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Seattle	NVL Batch Number 2206631.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 4 Hrs AH No
Project Manager Ms. Claire Tsai	Rush TAT
Phone (206) 233-9639	Due Date 4/8/2022 Time 12:00 PM
	Email claire.tsai@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement & Repairs

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

Total Number of Samples 7 **Rush Samples**

Lab ID	Sample ID	Description	A/R
1	22341266	40535.488-4/7/22-10	A
2	22341267	40535.488-4/7/22-11	A
3	22341268	40535.488-4/7/22-12	A
4	22341269	40535.488-4/7/22-13	A
5	22341270	40535.488-4/7/22-14	A
6	22341271	40535.488-4/7/22-15	A
7	22341272	40535.488-4/7/22-16	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/8/22	800
Analyzed by	Akane Yoshikawa		NVL	4/8/22	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 4/8/2022
 Time: 8:25 AM
 Entered By: Kelly AuVu



Project: Pierce College Olympic South Abatement & Repairs

Project #: 40535.488

Analysis requested: PLM

Date: 4/7/2022

Relinq'd by/Signature: [Signature]

Date/Time: 4/7/2022

Received by/Signature: [Signature]

Date/Time: 4/8/22 800P

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3-5 Days
- Other _____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40535.488-4/7/22-10	Yellow carpet mastic	East stairwell level 1	NVL
40535.488-4/7/22-11	Yellow carpet mastic	East stairwell level 3	
40535.488-4/7/22-12	Yellow stair tread mastic	East stairwell level 2 going down	
40535.488-4/7/22-13	Yellow stair tread mastic	East stairwell level 3 going down	
40535.488-4/7/22-14	Tan cove base mastic	East stairwell level 1 west wall	
40535.488-4/7/22-15	Gypsum wallboard joint compound	East stairwell level 1 northeast corner under stairs	
40535.488-4/7/22-16	Gypsum wallboard joint compound	East stairwell level 3 northeast corner	

April 13, 2022



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

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2206934.00

Client Project: 40535.488
Location: Pierce College Olympic South Abatement & Repairs

Dear Mr. Middaugh,

Enclosed please find test results for the 2 sample(s) submitted to our laboratory for analysis on 4/12/2022.

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', written over a white background.

Nick Ly, Technical Director

The logo for NVL LABS, featuring the letters 'NVL' in a large, outlined, sans-serif font, followed by 'LABS' in a smaller, outlined, sans-serif font.

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

Batch #: 2206934.00
Client Project #: 40535.488
Date Received: 4/12/2022
Samples Received: 2
Samples Analyzed: 2
Method: EPA/600/R-93/116

Attention: Mr. Gregg Middaugh
Project Location: Pierce College Olympic South Abatement & Repairs

Lab ID: 22343101 Client Sample #: 40535.488-4/12/22-1

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 2 Description: Beige fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Binder/Filler, Fine particles, Paint	Cellulose 63%	

Layer 2 of 2 Description: Gray rubbery material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Caulking compound	None Detected ND	

Lab ID: 22343102 Client Sample #: 40535.488-4/12/22-2

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 2 Description: Beige fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Binder/Filler, Fine particles, Paint	Cellulose 66%	

Layer 2 of 2 Description: Gray rubbery material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Caulking compound	None Detected ND	

Sampled by: Client

Analyzed by: Shane Christian

Reviewed by: Nick Ly

Date: 04/13/2022

Date: 04/13/2022

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

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Seattle	NVL Batch Number 2206934.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Mr. Gregg Middaugh	Rush TAT
Phone (206) 233-9639	Due Date 4/13/2022 Time 4:45 PM
Office: (800) 628-9639	Email gregg.middaugh@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement & Repairs

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

Total Number of Samples 2 **Rush Samples** _____

	Lab ID	Sample ID	Description	A/R
1	22343101	40535.488-4/12/22-1		A
2	22343102	40535.488-4/12/22-2		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/12/22	1645
Analyzed by	Shane Christian		NVL	4/13/22	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 4/12/2022
 Time: 4:40 PM
 Entered By: Kelly AuVu

April 14, 2022



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

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2207043.00

Client Project: 40535.488
Location: Pierce College Olympic South Abatement & Repairs

Dear Mr. Middaugh,

Enclosed please find test results for the 2 sample(s) submitted to our laboratory for analysis on 4/14/2022.

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, followed by "LABS" in a smaller, outlined, sans-serif font.

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

Batch #: 2207043.00
 Client Project #: 40535.488
 Date Received: 4/14/2022
 Samples Received: 2
 Samples Analyzed: 2
 Method: EPA/600/R-93/116

Attention: Mr. Gregg Middaugh
 Project Location: Pierce College Olympic South Abatement & Repairs

Lab ID: 22344054 Client Sample #: 40535.488-4/13/22-1

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 2	Description: Gray rubbery material with paint			
	Non-Fibrous Materials: Caulking compound, Paint	Other Fibrous Materials:% None Detected	ND	Asbestos Type: % None Detected ND
Layer 2 of 2	Description: Gray soft mastic			
	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials:% None Detected	ND	Asbestos Type: % None Detected ND


Lab ID: 22344055 Client Sample #: 40535.488-4/13/22-2

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 2	Description: Gray rubbery material			
	Non-Fibrous Materials: Caulking compound, Debris	Other Fibrous Materials:% None Detected	ND	Asbestos Type: % None Detected ND
Layer 2 of 2	Description: Black fibrous material			
	Non-Fibrous Materials: Glass debris	Other Fibrous Materials:% Glass fibers	94%	Asbestos Type: % None Detected ND

Sampled by: Client
Analyzed by: Shane Christian
Reviewed by: Nick Ly

Date: 04/14/2022
Date: 04/14/2022


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

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Seattle	NVL Batch Number 2207043.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Mr. Gregg Middaugh	Rush TAT
Phone (206) 233-9639	Due Date 4/15/2022 Time 8:00 AM
Office: (800) 628-9639	Email gregg.middaugh@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement & Repairs

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

Total Number of Samples 2 **Rush Samples** _____

Lab ID	Sample ID	Description	A/R
1	22344054	40535.488-4/13/22-1	A
2	22344055	40535.488-4/13/22-2	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	4/14/22	800
Analyzed by	Shane Christian		NVL	4/14/22	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 4/14/2022
 Time: 8:29 AM
 Entered By: Rachelle Miller

April 21, 2022



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

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2207493.00

Client Project: 40535.488
Location: Pierce College Olympic South Abatement & Repairs

Dear Ms. Tsai,

Enclosed please find test results for the 2 sample(s) submitted to our laboratory for analysis on 4/20/2022.

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, followed by "LABS" in a smaller, outlined, sans-serif font.

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

Batch #: 2207493.00
Client Project #: 40535.488
Date Received: 4/20/2022
Samples Received: 2
Samples Analyzed: 2
Method: EPA/600/R-93/116

Attention: Ms. Claire Tsai
Project Location: Pierce College Olympic South Abatement & Repairs

Lab ID: 22346678 Client Sample #: 40535.488-4/20/22-1

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 Description: White crumbly material


Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Calcareous particles, Debris	Cellulose 2%	None Detected ND

Lab ID: 22346679 Client Sample #: 40535.488-4/20/22-2

Location: Pierce College Olympic South Abatement & Repairs

Layer 1 of 1 Description: White crumbly material

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Calcareous particles, Debris	Cellulose 3%	None Detected ND

Sampled by: Client		
Analyzed by: Shane Christian	Date: 04/21/2022	
Reviewed by: Nick Ly	Date: 04/21/2022	_____ 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 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company PBS Environmental - Seattle	NVL Batch Number 2207493.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Ms. Claire Tsai	Rush TAT
Phone (206) 233-9639	Due Date 4/21/2022 Time 4:30 PM
	Email claire.tsai@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement & Repairs

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

Total Number of Samples 2 **Rush Samples**

Lab ID	Sample ID	Description	A/R
1	22346678	40535.488-4/20/22-1	A
2	22346679	40535.488-4/20/22-2	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/20/22	1630
Analyzed by	Shane Christian		NVL	4/21/22	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 4/20/2022
 Time: 4:43 PM
 Entered By: Kelly AuVu



01-Jun-2022

Gregg Middaugh
PBS
214 East Galer St, Suite 300
Seattle, WA 98102

Re: **Pierce College Olympic South Abatement and Repairs; 40** Work Order: **22050712**

Dear Gregg,

ALS Environmental received 6 samples on 19-May-2022 02:45 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

Report of Laboratory Analysis

ADDRESS 4388 Glendale Milford Rd Cincinnati, OH 45242- | PHONE (513) 733-5336 | FAX (513) 733-5347

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs; 4053
Work Order: 22050712

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
22050712-01	40535.488-5/5/2022-PLM01	Bulk		5/5/2022	5/19/2022 14:45	<input type="checkbox"/>
22050712-02	40535.488-5/5/2022-PLM02	Bulk		5/5/2022	5/19/2022 14:45	<input type="checkbox"/>
22050712-03	40535.488-5/5/2022-PLM03	Bulk		5/5/2022	5/19/2022 14:45	<input type="checkbox"/>
22050712-04	40535.488-5/5/2022-PLM04	Bulk		5/5/2022	5/19/2022 14:45	<input type="checkbox"/>
22050712-05	40535.488-5/5/2022-PLM05	Bulk		5/5/2022	5/19/2022 14:45	<input type="checkbox"/>
22050712-06	40535.488-5/5/2022-PLM06	Bulk		5/5/2022	5/19/2022 14:45	<input type="checkbox"/>

ALS Environmental

Date: 01-Jun-22

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs; 405
Work Order: 22050712

Case Narrative

ALS Environmental

Date: 01-Jun-22

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs

Work Order: 22050712

Lab ID: 22050712-01A
Client Sample ID: 40535.488-5/5/2022-PLM01

Collection Date: 5/5/2022
Matrix: BULK

Analyses	Result	Units	Analytical Results
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Asbestos by PLM

Date Analyzed 5/24/2022

Analyst: MRS

Macroscopic Examination Prep Date: 5/23/2022 E600/R-93/116

Color	Grey
Description	Material
Homogeneity	Homogeneous
Texture	Granular

Other Materials

E600/R-93/116

Cellulose	ND	%
Fiberglass	ND	%
Non-fibrous	>90<=100	%
Other fibers	ND	%
Resin/binder	ND	%

Asbestiform Minerals

E600/R-93/116

Amosite	ND	%
Anthophyllite	ND	%
Chrysotile	ND	%
Crocidolite	ND	%
Tremolite - actinolite	ND	%

Total asbestos ND %

Note:

ALS Environmental

Date: 01-Jun-22

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs

Work Order: 22050712

Lab ID: 22050712-02A
Client Sample ID: 40535.488-5/5/2022-PLM02

Collection Date: 5/5/2022
Matrix: BULK

Analyses	Result	Units	Analytical Results
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Asbestos by PLM

Date Analyzed 5/24/2022

Macroscopic Examination

Prep Date: 5/23/2022 E600/R-93/116

Analyst: MRS

Color	Grey
Description	Material
Homogeneity	Homogeneous
Texture	Granular

Other Materials

E600/R-93/116

Cellulose	ND	%
Fiberglass	ND	%
Non-fibrous	>90<=100	%
Other fibers	ND	%
Resin/binder	ND	%

Asbestiform Minerals

E600/R-93/116

Amosite	ND	%
Anthophyllite	ND	%
Chrysotile	ND	%
Crocidolite	ND	%
Tremolite - actinolite	ND	%

Total asbestos	ND	%
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Note:

ALS Environmental

Date: 01-Jun-22

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs

Work Order: 22050712

Lab ID: 22050712-03A
Client Sample ID: 40535.488-5/5/2022-PLM03

Collection Date: 5/5/2022
Matrix: BULK

Analyses	Result	Units	Analytical Results
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Asbestos by PLM

Date Analyzed 5/24/2022

Macroscopic Examination

Prep Date: 5/23/2022 E600/R-93/116

Analyst: MRS

Color	Grey
Description	Material
Homogeneity	Homogeneous
Texture	Granular

Other Materials

E600/R-93/116

Cellulose	ND	%
Fiberglass	ND	%
Non-fibrous	>90<=100	%
Other fibers	ND	%
Resin/binder	ND	%

Asbestiform Minerals

E600/R-93/116

Amosite	ND	%
Anthophyllite	ND	%
Chrysotile	ND	%
Crocidolite	ND	%
Tremolite - actinolite	ND	%

Total asbestos	ND	%
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Note:

ALS Environmental

Date: 01-Jun-22

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs

Work Order: 22050712

Lab ID: 22050712-04A
Client Sample ID: 40535.488-5/5/2022-PLM04

Collection Date: 5/5/2022
Matrix: BULK

Analyses	Result	Units	Analytical Results
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Asbestos by PLM

Date Analyzed 5/24/2022

Analyst: MRS

Macroscopic Examination Prep Date: 5/23/2022 E600/R-93/116

Color	Grey
Description	Material
Homogeneity	Homogeneous
Texture	Granular

Other Materials

E600/R-93/116

Cellulose	ND	%
Fiberglass	ND	%
Non-fibrous	>90<=100	%
Other fibers	ND	%
Resin/binder	ND	%

Asbestiform Minerals

E600/R-93/116

Amosite	ND	%
Anthophyllite	ND	%
Chrysotile	ND	%
Crocidolite	ND	%
Tremolite - actinolite	ND	%

Total asbestos	ND	%
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Note:

ALS Environmental

Date: 01-Jun-22

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs

Work Order: 22050712

Lab ID: 22050712-05A
Client Sample ID: 40535.488-5/5/2022-PLM05

Collection Date: 5/5/2022
Matrix: BULK

Analyses	Result	Units	Analytical Results
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Asbestos by PLM

Date Analyzed 5/24/2022

Macroscopic Examination

Prep Date: 5/23/2022 E600/R-93/116

Analyst: MRS

Color	Grey
Description	Material
Homogeneity	Homogeneous
Texture	Granular

Other Materials

E600/R-93/116

Cellulose	ND	%
Fiberglass	ND	%
Non-fibrous	>90<=100	%
Other fibers	ND	%
Resin/binder	ND	%

Asbestiform Minerals

E600/R-93/116

Amosite	ND	%
Anthophyllite	ND	%
Chrysotile	ND	%
Crocidolite	ND	%
Tremolite - actinolite	ND	%

Total asbestos	ND	%
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Note:

ALS Environmental

Date: 01-Jun-22

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs

Work Order: 22050712

Lab ID: 22050712-06A
Client Sample ID: 40535.488-5/5/2022-PLM06

Collection Date: 5/5/2022
Matrix: BULK

Analyses	Result	Units	Analytical Results
Asbestos by PLM			Date Analyzed 5/24/2022
Macroscopic Examination	Prep Date: 5/23/2022	E600/R-93/116	Analyst: MRS
Color	Grey		
Description	Material		
Homogeneity	Homogeneous		
Texture	Granular		
Other Materials			E600/R-93/116
Cellulose	ND	%	
Fiberglass	ND	%	
Non-fibrous	>90<=100	%	
Other fibers	ND	%	
Resin/binder	ND	%	
Asbestiform Minerals			E600/R-93/116
Amosite	ND	%	
Anthophyllite	ND	%	
Chrysotile	ND	%	
Crocidolite	ND	%	
Tremolite - actinolite	ND	%	
Total asbestos	ND	%	

Note:

Client: PBS
Project: Pierce College Olympic South Abatement and Repairs
WorkOrder: 22050712

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
%	

Sample Receipt Checklist

Client Name: **PBS-SEATTLE**

Date/Time Received: **19-May-22 14:45**

Work Order: **22050712**

Received by: **AB**

Checklist completed by: Alec Bolender 19-May-22
eSignature Date

Reviewed by: Rob Nieman 23-May-22
eSignature Date

Matrices: bulk
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

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: Claire Tsai
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA
98102
Tel: 206.233.9639
Date Report Issued: 5/10/2022

Date Analyzed: 5/10/2022
Client Job#: 40535.488
Project Location: Pierce College Olympic South
Abatement & Repairs
Laboratory batch#: 202209972
Samples Received: 2

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

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.: Claire Tsai

Client: PBS Engineering and Environmental, Seattle

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

Job#: 40535.488

Batch#: 202209972

Date Received: 5/10/2022


Samples Rec'd: 2

Date Analyzed: 5/10/2022

Samples Analyzed: 2

Project Loc.: Pierce College Olympic South Abatement & Repairs

Analyzed by: Cassie Huang

Approved Signatory:  Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40535.488 -5 /10/22-1	1	Red soft/elastic material with fibrous material		None detected	Binder, Filler	23	Synthetic fibers, Cellulose
2	40535.488 -5 /10/22-2	1	Red soft/elastic material with fibrous material		None detected	Binder, Filler	28	Synthetic fibers, Cellulose

June 21, 2022



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

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2211266.00

Client Project: 40535.488
Location: Pierce College Olympic South Abatement and Repairs

Dear Mr. Middaugh,

Enclosed please find test results for the 13 sample(s) submitted to our laboratory for analysis on 6/21/2022.

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,


Munaf Khan, Laboratory Director



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

Batch #: 2211266.00
Client Project #: 40535.488
Date Received: 6/21/2022
Samples Received: 13
Samples Analyzed: 13
Method: EPA/600/R-93/116

Attention: Mr. Gregg Middaugh

Project Location: Pierce College Olympic South Abatement and Repairs

Lab ID: 22369931 **Client Sample #: 40535.488-6/17/22-01**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1 **Description:** Black soft/elastic material with paint & debris

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Paint, Debris	Cellulose <1%	

None Detected ND

Lab ID: 22369932 **Client Sample #: 40535.488-6/17/22-02**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1 **Description:** Black asphaltic fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Asphalt/Binder, Asphaltic Particles, Paint	Cellulose 41%	

None Detected ND

Lab ID: 22369933 **Client Sample #: 40535.488-6/17/22-03**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1 **Description:** Black soft/elastic material with debris

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Debris	Polyethylene fibers 7%	

None Detected ND

Lab ID: 22369934 **Client Sample #: 40535.488-6/17/22-04**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 2 **Description:** Gray soft material with paint & debris

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Paint, Debris	Cellulose 3%	

Chrysotile 7%

Layer 2 of 2 **Description:** Gray brittle material with debris

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Debris	Cellulose 2%	

Chrysotile 9%

Lab ID: 22369935 **Client Sample #: 40535.488-6/17/22-05**

Location: Pierce College Olympic South Abatement and Repairs

Sampled by: Client

Analyzed by: Kunga Woser

Reviewed by: Munaf Khan

Date: 06/21/2022

Date: 06/21/2022

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

Batch #: 2211266.00
Client Project #: 40535.488
Date Received: 6/21/2022
Samples Received: 13
Samples Analyzed: 13
Method: EPA/600/R-93/116

Attention: Mr. Gregg Middaugh

Project Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1	Description: Dark gray brittle material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Debris	Cellulose 3%		Chrysotile 6%

Lab ID: 22369936 **Client Sample #: 40535.488-6/17/22-06**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1	Description: White brittle material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Debris	Cellulose <1%		None Detected ND

Lab ID: 22369937 **Client Sample #: 40535.488-6/17/22-07**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 2	Description: White soft/elastic material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Debris	Cellulose <1%		None Detected ND

Layer 2 of 2	Description: Dark gray soft/elastic material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Debris	Polyethylene fibers 7%		None Detected ND


Lab ID: 22369938 **Client Sample #: 40535.488-6/17/22-08**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1	Description: Off-white brittle material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Debris	Cellulose 3%		Chrysotile 6%

Lab ID: 22369939 **Client Sample #: 40535.488-6/17/22-09**

Location: Pierce College Olympic South Abatement and Repairs

Sampled by: Client		
Analyzed by: Kunga Woser	Date: 06/21/2022	
Reviewed by: Munaf Khan	Date: 06/21/2022	Munaf Khan, Laboratory 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 - Seattle
Address: 214 E Galer St. Suite. 300
Seattle, WA 98102

Batch #: 2211266.00
Client Project #: 40535.488
Date Received: 6/21/2022
Samples Received: 13
Samples Analyzed: 13
Method: EPA/600/R-93/116

Attention: Mr. Gregg Middaugh

Project Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1	Description: Tan soft/elastic material with paint & debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Paint, Debris	Polyethylene fibers 6%		None Detected ND

Lab ID: 22369940 **Client Sample #: 40535.488-6/17/22-10**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1	Description: Gray soft/elastic material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Debris	Cellulose <1%		None Detected ND

Lab ID: 22369941 **Client Sample #: 40535.488-6/17/22-11**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1	Description: Gray brittle material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Debris	Cellulose <1%		None Detected ND

Lab ID: 22369942 **Client Sample #: 40535.488-6/17/22-12**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1	Description: Tan soft/elastic material with paint & debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Paint, Debris	Cellulose <1%		None Detected ND

Lab ID: 22369943 **Client Sample #: 40535.488-6/17/22-13**

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 2	Description: Gray soft/elastic material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Debris, Granules	Cellulose 2%		None Detected ND
	Mineral grains, Perlite			

Sampled by: Client

Analyzed by: Kunga Woser

Reviewed by: Munaf Khan

Date: 06/21/2022

Date: 06/21/2022

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

Batch #: 2211266.00
Client Project #: 40535.488
Date Received: 6/21/2022
Samples Received: 13
Samples Analyzed: 13
Method: EPA/600/R-93/116

Attention: Mr. Gregg Middaugh
Project Location: Pierce College Olympic South Abatement and Repairs

Layer 2 of 2	Description: Gray brittle material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mineral grains, Granules	Wollastonite 3%		None Detected ND
	Debris			

Sampled by: Client		
Analyzed by: Kunga Woser	Date: 06/21/2022	
Reviewed by: Munaf Khan	Date: 06/21/2022	

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 - Seattle	NVL Batch Number 2211266.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Mr. Gregg Middaugh	Rush TAT
Phone (206) 233-9639	Due Date 6/22/2022 Time 8:00 AM
Office: (800) 628-9639	Email gregg.middaugh@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement and Repairs

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

Total Number of Samples 13 **Rush Samples**

Lab ID	Sample ID	Description	A/R
1	22369931	40535.488-6/17/22-01	A
2	22369932	40535.488-6/17/22-02	A
3	22369933	40535.488-6/17/22-03	A
4	22369934	40535.488-6/17/22-04	A
5	22369935	40535.488-6/17/22-05	A
6	22369936	40535.488-6/17/22-06	A
7	22369937	40535.488-6/17/22-07	A
8	22369938	40535.488-6/17/22-08	A
9	22369939	40535.488-6/17/22-09	A
10	22369940	40535.488-6/17/22-10	A
11	22369941	40535.488-6/17/22-11	A
12	22369942	40535.488-6/17/22-12	A
13	22369943	40535.488-6/17/22-13	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Rachelle Miller		NVL	6/21/22	800
Analyzed by	Kunga Woser		NVL	6/21/22	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 6/21/2022
 Time: 7:48 AM
 Entered By: Rachelle Miller



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement and Repairs

Project #: 40535.488 Page 1 of 1

Analysis requested: PLM

Date: 6/17/2022

Relinq'd by/Signature: *Charm T. Liu*

Date/Time: 6/20/2022

Received by/Signature: *Rachelle Miller*

Date/Time: 6/21/22 Sam NIB

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- 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
40535.488-6/17/22-01	Gasket	Level 1 mechanical room fire sprinkler main	NVL
40535.488-6/17/22-02	Black paper backing	Level 2 east wall second column south back of Marble Crete	
40535.488-6/17/22-03	Black soft caulk	Level 1 northwest base of window below stairs	
40535.488-6/17/22-04	Soft grey caulk on grey caulk	Level 1 north window center area	
40535.488-6/17/22-05	Grey sealant	Level 1 southwest window rough opening	
40535.488-6/17/22-06	White sealant	Level 1 southwest window rough opening	
40535.488-6/17/22-07	White on grey caulk	Level 1 south west window	
40535.488-6/17/22-08	Residual white exterior window caulk	South elevation level 1 base of window	
40535.488-6/17/22-09	Soft tan caulk	East elevation top of window wall	
40535.488-6/17/22-10	Soft grey caulk	West elevation window	
40535.488-6/17/22-11	Grey caulk	North elevation top of level 1 window	
40535.488-6/17/22-12	Soft tan caulk	North elevation level 2 window	
40535.488-6/17/22-13	Soft grey caulk on grey brittle material	West elevation under skybridge penetration	

July 7, 2022



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

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2212282.00

Client Project: 40535.488
Location: Pierce College Olympic South Abatement and Repairs

Dear Mr. Middaugh,

Enclosed please find test results for the 2 sample(s) submitted to our laboratory for analysis on 7/6/2022.

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', written over a white background.

Nick Ly, Technical Director

The logo for NVLAP Testing. It features the letters 'NVLAP' in a large, outlined, sans-serif font. Below 'NVLAP' is the word 'Testing' in a smaller, solid, sans-serif font.

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

Batch #: 2212282.00
Client Project #: 40535.488
Date Received: 7/6/2022
Samples Received: 2
Samples Analyzed: 2
Method: EPA/600/R-93/116

Attention: Mr. Gregg Middaugh
Project Location: Pierce College Olympic South Abatement and Repairs

Lab ID: 22375665 Client Sample #: 40535.488-7/5/22-01

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1 Description: Brown soft material

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Fine particles, Caulking compound	Cellulose 3%	Chrysotile 5%

Lab ID: 22375666 Client Sample #: 40535.488-7/5/22-02

Location: Pierce College Olympic South Abatement and Repairs

Layer 1 of 1 Description: Brown soft material

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Fine particles, Caulking compound	Cellulose 2%	Chrysotile 6%

Sampled by: Client

Analyzed by: Muhammad Yousuf

Reviewed by: Nick Ly

Date: 07/07/2022

Date: 07/07/2022

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 - Seattle	NVL Batch Number 2212282.00
Address 214 E Galer St. Suite. 300 Seattle, WA 98102	TAT 1 Day AH No
Project Manager Mr. Gregg Middaugh	Rush TAT
Phone (206) 233-9639	Due Date 7/7/2022 Time 1:10 PM
Office: (800) 628-9639	Email gregg.middaugh@pbsusa.com
	Fax (866) 727-0140

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement and Repairs

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

Total Number of Samples 2 **Rush Samples** _____

Lab ID	Sample ID	Description	A/R
1	22375665	40535.488-7/5/22-01	A
2	22375666	40535.488-7/5/22-02	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	7/6/22	1310
Analyzed by	Muhammad Yousuf		NVL	7/7/22	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 7/6/2022
 Time: 1:41 PM
 Entered By: Kelly AuVu

APPENDIX C

Lab/Cor PLM vs. TEM Letter

Lab/Cor Inc. Polarized Light Microscopy vs Transmission Electron Microscopy for Bulk Building Materials

PBS Engineering and Environmental
214 Galer Street
Seattle, WA 98102

June 6, 2022

Attn: Claire Tsai

RE: Polarized Light Microscopy vs Transmission Electron Microscopy for Bulk Building Materials

Dear Claire,

There are several factors to evaluate when comparing Polarized Light Microscopy (PLM) to Transmission Electron Microscopy (TEM).

SAMPLE ANALYSIS:

PLM is typically performed at a much lower magnification, 100x for PLM compared to 20,000x for TEM. The lower magnification prevents PLM analysts from observing individual fibrils. If samples are excessively manipulated, asbestiform bundles can be further reduced into individual fibrils that are unable to be detected using standard PLM techniques. Traditional TEM methods will detect smaller fibrils that may have otherwise been unobserved by standard PLM methods. The limit of detection for thin fibrils is 0.05 μ m in width, which is difficult to resolve at PLM magnification which are 1 μ m in width at best.

PLM analysis will analyze a much larger representative portion of the sample than what would otherwise occur with TEM analysis. PLM preparation performs at minimum, three slide mounts from the sampled material, which is a significantly greater area analyzed than the area observed via TEM analysis. The TEM procedure begins with a greater volume of material which is gravimetrically reduced to eliminate as much background or interfering matrix as possible. The sample is then homogenized in solution which is aliquoted onto a filter. The TEM grids prepared from this filter are approximately 3mm in diameter. Albeit, the area analyzed in comparison is much less than what is analyzed by PLM, however much of the interfering matrix has been chemically and thermally removed thus giving a more accurate observation of the percent asbestos.

Often there are coatings or other interferences in the material and PLM has a difficult time distinguishing these and is unable to provide an accurate fiber identification without further reduction or TEM confirmation. The TEM's at LabCor, Inc are equipped with Thermo Fisher X-Ray Spectral analyzers with Silicon Drift Detectors. A spectral analysis is performed with a probe size between 30-200nm to determine the chemistry of the individual fibers. Furthermore, crystalline diffraction lattices are captured using a digital CCD camera to further identify the specific fiber type through mineralogical d-spacings. This specificity is not available with PLM.

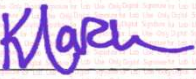


SAMPLE PREPARTION:

The various materials being sampled and tested can also contribute to the differences between PLM and TEM analyses. Some matrices can be difficult to reduce without the assistance of gravimetric reduction; the use of sample ashing and hydrolysis. Gravimetric reduction is standard for all TEM bulk sample analyses. Occasionally bulk materials may have binders that coat the fibers of interest, thus obscuring the optical properties used to identify fibers via PLM. In conjunction, there are several ACM materials that are difficult to process by PLM due to the sample matrix.

Both analyses are dependent on a trained analyst choosing representative areas for testing. With TEM sample prep, the sample is much more homogenized which contributes to a more accurate analysis. Both PLM and TEM analyses will analyze individual layers, but occasionally obtaining enough material for TEM analysis is difficult with the sample provided. This may result in a biased result if the original starting weight isn't greater than 100mg of material.

Signed by:


x _____
Digitally signed by Kate March, DN: cn=Kate March, o=LabCor, ou=Quality Assurance, email=kate@labcor.net, c=US

Kate March
Quality Assurance Officer


x _____
Digitally signed by Derk Wipprecht, DN: cn=Derk Wipprecht, o=LabCor, ou=Laboratory Management, email=derk@labcor.net, c=US

Derk Wipprecht
Laboratory Manager

APPENDIX D

Construction Phase TEM Bulk Sampling Information

TEM Bulk Sample Inventory

TEM Bulk Sample Laboratory Data Sheets

TEM Bulk Sample Chain of Custody Documentation

TEM ASBESTOS SAMPLE INVENTORY

<u>PBS Sample #</u>	<u>Material</u>	<u>Sample Location</u>	<u>Weight Percent</u>	<u>Lab</u>	
40535.488	9/29/2021-TEM01	Surface dust	Room 164 south supply ~14,000,000	16.27% Chrysotile 1.48% Tremolite Total Asbestos 17.75%	Lab/cor
40535.488	9/29/2021-TEM02	Surface dust	Room 163 east wall supply ~9,000,000	2.14% Chrysotile	Lab/cor
40535.488	9/29/2021-TEM03	Surface dust	FL1 corridor west side east supply duct ~1,000,000	1.06% Actinolite 2.64% Chrysotile Total Asbestos 3.70%	Lab/cor
40535.488	9/29/2021-TEM04	Surface dust	FL1 corridor west side center return duct ~500,000	0.77% Actinolite 1.53% Chrysotile Total Asbestos 2.30%	Lab/cor
40535.488	9/29/2021-TEM05	Surface dust	ECE center supply duct ~12,000	1.92% Chrysotile	Lab/cor
40535.488	10/5/2021-TEM01	Surface dust	Room 270 southwest supply duct ~6,000	NAD	Lab/cor
40535.488	10/13/2021-TEM01	Surface dust	2nd Floor Mechanical – MZ2 – post filter - supply duct ~4,000	NAD	Lab/cor
40535.488	10/13/2021-TEM02	Surface dust	2nd Floor Mechanical – MZ3 – post filter - return duct ~5,000	NAD	Lab/cor
40535.488	2/17/2022-TEM01	Fill dirt	South elevation northeast of Robin's Nest	0.10% Actinolite 0.10% Chrysotile Total Asbestos 0.19%	Lab/cor
40535.488	2/17/2022-TEM02	Fill dirt	South elevation northwest of Robin's Nest	0.15% Actinolite	Lab/cor
40535.488	2/17/2022-TEM03	Fill dirt	West elevation play mound east area	0.09% Chrysotile	Lab/cor
40535.488	2/17/2022-TEM04	Sand	West elevation near orange play structure	0.10% Anthophyllite	Lab/cor
40535.488	3/25/2022-TEM01	Concrete	LV1 former kitchen steps	0.29% Actinolite	Lab/cor

Pierce College Olympic South Abatement and Repairs
Washington Department of Enterprise Services

Construction Phase
 TEM Bulk

PBS Engineering + Environmental
PBS Project # 40535.488

<u>PBS Sample #</u>	<u>Material</u>	<u>Sample Location</u>	<u>Weight Percent</u>	<u>Lab</u>	
40535.488	3/25/2022-TEM02	Concrete	LV1 near previous 165 restroom	0.07% Actinolite 0.07% Chrysotile Total Asbestos 0.13%	Lab/cor
40535.488	3/25/2022-TEM03	Concrete	LV1 northeast area at column near double doors	0.05% Tremolite	Lab/cor
40535.488	3/25/2022-TEM04	Concrete	LV2 previous room 284 north floor	0.08% Actinolite	Lab/cor
40535.488	3/25/2022-TEM05	Concrete	LV2 previous room 268	0.07% Tremolite	Lab/cor
40535.488	3/25/2022-TEM06	Concrete	LV2 previous room 260	NAD	Lab/cor
40535.488	3/25/2022-TEM07	Concrete	LV3 previous room 323 lower floor slab	0.05% Actinolite	Lab/cor
40535.488	3/25/2022-TEM08	Concrete	LV3 northeast lower slab below room 329	0.16% Actinolite 0.05% Chrysotile Total Asbestos 0.21%	Lab/cor
40535.488	3/25/2022-TEM09	Concrete	LV3 northwest lower slab below room 327	0.15% Actinolite 0.03% Chrysotile Total Asbestos 0.19%	Lab/cor
40535.488	4/7/2022-TEM01	Surface Dust	Black swimming flipper – central shed - ECE	0.16% Actinolite	Lab/cor
40535.488	4/7/2022-TEM02	Surface Dust	Olympic South covered shed west elevation wood shelf	0.10% Actinolite	Lab/cor
40535.488	4/7/2022-TEM03	Concrete	East stairwell level 1	0.40% Actinolite 0.10% Chrysotile Total Asbestos 0.50%	Lab/cor
40535.488	4/7/2022-TEM04	Concrete	East stairwell level 3	0.07% Chrysotile	Lab/cor
40535.488	5/5/2022-TEM01	Marblecrete	Olympic S Level 3 S wall W side	1.34% Actinolite 4.55% Chrysotile Total Asbestos 5.89%	Lab/cor

Pierce College Olympic South Abatement and Repairs
Washington Department of Enterprise Services

Construction Phase
 TEM Bulk

PBS Engineering + Environmental
PBS Project # 40535.488

<u>PBS Sample #</u>	<u>Material</u>	<u>Sample Location</u>	<u>Weight Percent</u>	<u>Lab</u>	
40535.488	5/5/2022-TEM02	Marblecrete	Olympic S Level 3 S wall E side	3.09% Chrysotile	Lab/cor
40535.488	5/5/2022-TEM03	Marblecrete	Olympic S Level 2 Stairwell near doorway	2.40% Chrysotile	Lab/cor
40535.488	5/5/2022-TEM04	Marblecrete	Olympic S Level 1 Stairwell near N penetration	0.96% Actinolite	Lab/cor
40535.488	5/5/2022-TEM05	Marblecrete	Olympic S Exterior S elev. W side	0.14% Actinolite	Lab/cor
40535.488	5/5/2022-TEM06	Marblecrete	Olympic S Exterior SE corner E column	0.08% Actinolite	Lab/cor
40535.488	5/5/2022-TEM01QC	Marblecrete	Olympic S Level 3 S wall W side	1.81% Chrysotile	ALS
40535.488	5/5/2022-TEM02QC	Marblecrete	Olympic S Level 3 S wall E side	1.84% Chrysotile	ALS
40535.488	5/5/2022-TEM03QC	Marblecrete	Olympic S Level 2 Stairwell near doorway	1.56% Chrysotile	ALS
40535.488	5/5/2022-TEM04QC	Marblecrete	Olympic S Level 1 Stairwell near N penetration	NAD	ALS
40535.488	5/5/2022-TEM05QC	Marblecrete	Olympic S Exterior S elev. W side	NAD	ALS
40535.488	5/5/2022-TEM06QC	Marblecrete	Olympic S Exterior SE corner E column	NAD	ALS
40535.488	5/9/2022-TEM01	Plaster / gypsum	Olympic S Exterior NE Soffit bottom of the lid	1.83% Chrysotile	Lab/cor
40535.488	5/9/2022-TEM02	Plaster	Olympic S Exterior Bottom of the skybridge W of the columns	4.44% Chrysotile	Lab/cor
40535.488	5/9/2022-TEM03	EIFS	Olympic S Exterior N Elevation E side	NAD	Lab/cor
40535.488	5/9/2022-TEM04	EIFS	Olympic S Exterior N Elevation W side	NAD	Lab/cor
40535.488	5/17/2022-TEM01	Plaster	Olympic S Stairwell North Elevation	0.49% Actinolite	Lab/cor
40535.488	5/17/2022-TEM02	Plaster	Olympic S Stairwell East Elevation	0.65% Tremolite	Lab/cor
40535.488	5/17/2022-TEM03	Plaster	Olympic S Stairwell South Elevation	0.48% Tremolite	Lab/cor

<u>PBS Sample #</u>	<u>Material</u>	<u>Sample Location</u>	<u>Weight Percent</u>	<u>Lab</u>	
40535.488	5/17/2022-TEM04	CMU	Olympic S wall between 283/284	1.12% Actinolite	Lab/cor
40535.488	5/17/2022-TEM05	CMU	Olympic S wall between 283/284	0.79% Actinolite 1.11% Tremolite Total Asbestos 1.90%	Lab/cor
40535.488	5/17/2022-TEM06	CMU	Olympic S wall between 283/284	0.76% Tremolite	Lab/cor
40535.488	5/26/22-TEM01	Soil	East elevation under stairs to mechanical mezzanine	0.11% Chrysotile 0.04% Tremolite Total Asbestos 0.15%	Lab/cor
40535.488	5/26/22-TEM02	Soil	East elevation drive thru near north exterior column	0.01% Chrysotile 0.14% Tremolite Total Asbestos 0.15%	Lab/cor
40535.488	6/17/2022-TEM01	Concrete	Level 1 northwest stairs	0.06% Actinolite	Lab/cor

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 210969
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 210969R01
Report Date: 10/4/2021

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

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
210969 - S1	40535.488-9/29/2021-TEM01 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		9/30/2021
210969 - S2	40535.488-9/29/2021-TEM02 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		9/30/2021
210969 - S3	40535.488-9/29/2021-TEM03 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		9/30/2021
210969 - S4	40535.488-9/29/2021-TEM04 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		9/30/2021
210969 - S5	40535.488-9/29/2021-TEM05 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		9/30/2021

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X
Sierra Hinkle
 Technician/Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210969 SEA
 Client: PBS Engineering + Environmental
 Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 210969R01
 Date Received: 9/30/2021

Lab/Cor Sample No.: S1

Client Sample No.: 40535.488-9/29/2021-TEM01

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/4/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	16.27%	Acid Solubles	52.19%
Tremolite	1.48%	Organics	18.24%
Total Asbestos Percent	17.75%	Residue	11.83%
		Total Other Non-Asbestos Percent	82.25%

Lab/Cor Sample No.: S2

Client Sample No.: 40535.488-9/29/2021-TEM02

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/4/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	2.14%	Acid Solubles	72.41%
Total Asbestos Percent	2.14%	Organics	19.02%
		Residue	6.43%
		Total Other Non-Asbestos Percent	97.86%

Lab/Cor Sample No.: S3

Client Sample No.: 40535.488-9/29/2021-TEM03

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/4/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	1.06%	Acid Solubles	20.43%
Chrysotile	2.64%	Organics	26.78%
Total Asbestos Percent	3.70%	Residue	49.10%
		Total Other Non-Asbestos Percent	96.30%

Lab/Cor Sample No.: S4

Client Sample No.: 40535.488-9/29/2021-TEM04

Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/4/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.77%	Acid Solubles	29.75%
Chrysotile	1.53%	Organics	31.94%
Total Asbestos Percent	2.30%	Residue	36.02%
		Total Other Non-Asbestos Percent	97.70%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210969 SEA
 Client: PBS Engineering + Environmental

Report Number: 210969R01
 Date Received: 9/30/2021

Lab/Cor Sample No.: S5
 Client Sample No.: 40535.488-9/29/2021-TEM05
 Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/4/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	1.92%	Acid Solubles	24.85%
Total Asbestos Percent	1.92%	Organics	36.84%
		Residue	36.40%
		Total Other Non-Asbestos Percent	98.08%

Reviewed by:

Sierra Hinkle
 X
 Sierra Hinkle
 Technician/Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210969 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 210969R01
Date Received: 9/30/2021

Lab/Cor Sample No: S1
Client Sample No: 40535.488-9/29/2021-TEM01
Description:

Container Weight	13.54762 g	Hydrolysis Filter PreWeight	13.58972 g
Weight Before Ash	13.62680 g	Filter Post Hydrolysis	13.61264 g
Orig Sample Weight	0.07918 g	After Hydrolysis Weight	0.02292 g
Weight After Ash	13.61236 g	Hydrolysis Aliquot	19.575 ml
Particulate After Ash	0.06474 g	Hydrolysis Adjusted Weight	0.02342 g
Percent Organics	18.24%	Begin Volume	20 ml
		Acid Solubles	52.19%

Grid	Analyte	Visual Estimate	Elements	Comment		
G9	Tremolite	4.00%	Mg, Si, Ca			
			ItemType	ItemNum	Confirmed	Comment
			Diffraction	F66460DF	SH 10/4/2021	0.53nm ROW SPACING
			Spectra	F66460SP	SH 10/4/2021	
G9	Chrysotile	50.00%	Mg, Si, Fe			
			ItemType	ItemNum	Confirmed	Comment
			Diffraction	F66461DF	SH 10/4/2021	0.53nm ROW SPACING
			Spectra	F66461SP	SH 10/4/2021	
G10	Tremolite	6.00%	Mg, Si, Ca			
G10	Chrysotile	60.00%	Mg, Si, Fe			

Lab/Cor Sample No: S2
Client Sample No: 40535.488-9/29/2021-TEM02
Description:

Container Weight	13.41323 g	Hydrolysis Filter PreWeight	13.45475 g
Weight Before Ash	13.55745 g	Filter Post Hydrolysis	13.46687 g
Orig Sample Weight	0.14422 g	After Hydrolysis Weight	0.01212 g
Weight After Ash	13.53002 g	Hydrolysis Aliquot	19.6 ml
Particulate After Ash	0.11679 g	Hydrolysis Adjusted Weight	0.01237 g
Percent Organics	19.02%	Begin Volume	20 ml
		Acid Solubles	72.41%

Grid	Analyte	Visual Estimate	Elements	Comment		
G7	Chrysotile	20.00%				
G8	Chrysotile	30.00%	Mg, Si, Fe			
			ItemType	ItemNum	Confirmed	Comment
			Diffraction	F66464DF	SH 10/4/2021	0.53nm ROW SPACING
			Spectra	F66464SP	SH 10/4/2021	
			Brightfield	F66464BF		

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210969 SEA
 Client: PBS Engineering + Environmental

Report Number: 210969R01
 Date Received: 9/30/2021

Lab/Cor Sample No: S3
 Client Sample No: 40535.488-9/29/2021-TEM03
 Description:

Container Weight	13.63612 g	Hydrolysis Filter PreWeight	13.67653 g
Weight Before Ash	13.71017 g	Filter Post Hydrolysis	13.71484 g
Orig Sample Weight	0.07405 g	After Hydrolysis Weight	0.03831 g
Weight After Ash	13.69034 g	Hydrolysis Aliquot	19.6 ml
Particulate After Ash	0.05422 g	Hydrolysis Adjusted Weight	0.03909 g
Percent Organics	26.78%	Begin Volume	20 ml
		Acid Solubles	20.43%

Grid	Analyte	Visual Estimate	Elements	Comment	
G7	Chrysotile	4.00%	Mg, Si, Fe		
			ItemType	ItemNum	Confirmed
			Diffraction	F66465DF	SH 10/4/2021
			Spectra	F66465SP	SH 10/4/2021
			Brightfield	F66465BF	
G7	Actinolite	1.00%	Mg, Al, Si, Ca, Mn, Fe		
G8	Chrysotile	6.00%	Mg, Si, Fe		
G8	Actinolite	3.00%	Mg, Al, Si, Ca, Mn, Fe		
			ItemType	ItemNum	Confirmed
			Diffraction	F66466DF	SH 10/4/2021
			Spectra	F66466SP	SH 10/4/2021
			Brightfield	F66466BF	

Lab/Cor Sample No: S4
 Client Sample No: 40535.488-9/29/2021-TEM04
 Description:

Container Weight	13.67077 g	Hydrolysis Filter PreWeight	13.71314 g
Weight Before Ash	13.73546 g	Filter Post Hydrolysis	13.73743 g
Orig Sample Weight	0.06469 g	After Hydrolysis Weight	0.02429 g
Weight After Ash	13.71480 g	Hydrolysis Aliquot	19.6 ml
Particulate After Ash	0.04403 g	Hydrolysis Adjusted Weight	0.02479 g
Percent Organics	31.94%	Begin Volume	20 ml
		Acid Solubles	29.75%

Grid	Analyte	Visual Estimate	Elements	Comment	
G7	Chrysotile	3.00%	Mg, Si, Fe		
			ItemType	ItemNum	Confirmed
			Diffraction	F66467DF	SH 10/4/2021
			Spectra	F66467SP	SH 10/4/2021
			Brightfield	F66467BF	
G7	Actinolite	1.00%	Mg, Al, Si, K, Ca, Mn, Fe		
			ItemType	ItemNum	Confirmed
			Diffraction	F66468DF	SH 10/4/2021
			Spectra	F66468SP	SH 10/4/2021
			Brightfield	F66468BF	
G8	Chrysotile	5.00%	Mg, Si, Fe		
G8	Actinolite	3.00%	Mg, Al, Si, K, Ca, Mn, Fe		

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 210969 **SEA**
Client: PBS Engineering + Environmental

Report Number: 210969R01
Date Received: 9/30/2021

Lab/Cor Sample No: S5
Client Sample No: 40535.488-9/29/2021-TEM05
Description:

Container Weight	13.57802 g	Hydrolysis Filter PreWeight	13.62084 g
Weight Before Ash	13.65126 g	Filter Post Hydrolysis	13.64834 g
Orig Sample Weight	0.07324 g	After Hydrolysis Weight	0.02750 g
Weight After Ash	13.62428 g	Hydrolysis Aliquot	19.6 ml
Particulate After Ash	0.04626 g	Hydrolysis Adjusted Weight	0.02806 g
Percent Organics	36.84%	Begin Volume	20 ml
		Acid Solubles	24.85%

Grid	Analyte	Visual Estimate	Elements	Comment
G7	Chrysotile	4.00%	Mg, Si	
			Item Type	ItemNum
			Diffraction	F66469DF
			Spectra	F66469SP
			Brightfield	F66469BF
			Confirmed	Comment
			SH 10/4/2021	0.53nm ROW SPACING
			SH 10/4/2021	
G8	Chrysotile	6.00%	Mg, Si	

Reviewed by:

Sierra Hinkle
 X
Sierra Hinkle
 Technician/Analyst

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 211000

Report Number: 211000R01

Client: PBS Engineering + Environmental

Report Date: 10/8/2021

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Olympic South Abatement and Repairs

Project No.: 40535.488

PO Number:

Sub Project:

Reference No.:

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

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
211000 - S1	40535.488-10/5/2021-TEM01 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	Many Mg-Al-Si fibers present	10/5/2021

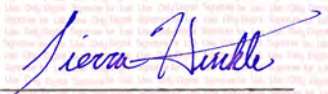
ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X _____
Sierra Hinkle
 Technician/Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 211000 **SEA** **Report Number:** 211000R01
Client: PBS Engineering + Environmental **Date Received:** 10/5/2021
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No.: S1 **Sample Notes:**
Client Sample No.: 40535.488-10/5/2021-TEM01 Many Mg-Al-Si fibers present
Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/8/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	40.92%
Total Regulated Asbestos Percent	ND*	Organics	25.00%
		Residue	34.08%
		Total Other Non-Asbestos Percent	100.00%

Reviewed by:

Sierra Hinkle
 X _____
Sierra Hinkle
 Technician/Analyst

ND* - None Detected
 Regulated Asbestos - Chrysotile, Actinolite, Tremolite, Amosite, Crocidolite, Anthophyllite

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 211000 **SEA** **Report Number:** 211000R01
Client: PBS Engineering + Environmental **Date Received:** 10/5/2021
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1 **SampleNotes:**
Client Sample No: 40535.488-10/5/2021-TEM01 Many Mg-Al-Si fibers present
Description:

Container Weight	13.51000 g	Hydrolysis Filter PreWeight	13.55073 g
Weight Before Ash	13.62054 g	Filter Post Hydrolysis	13.58760 g
Orig Sample Weight	0.11054 g	After Hydrolysis Weight	0.03687 g
Weight After Ash	13.59290`	Hydrolysis Aliquot	19.575 ml
Particulate After Ash	0.08290 g	Hydrolysis Adjusted Weight	0.03767 g
Percent Organics	25.00%	Begin Volume	20 ml
		Acid Solubles	40.92%

Grid	Analyte	Visual Estimate	Elements	Comment
G9	None Detect (Regulated Asbestos)	0.00%		
G10	None Detect (Regulated Asbestos)	0.00%		

Reviewed by:

Sierra Hinkle
 X
Sierra Hinkle
 Technician/Analyst

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 211029

Report Number: 211029R01

Client: PBS Engineering + Environmental

Report Date: 10/21/2021

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Olympic South Abatement and Repairs

Project No.: 40535.488

PO Number:

Sub Project:

Reference No.:

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

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
211029 - S1	40535.488-10/13/2021-TEM01 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		10/15/2021
211029 - S2	40535.488-10/13/2021-TEM02 -	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		10/15/2021

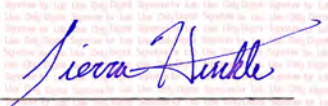
ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 x _____
Sierra Hinkle
 Technician/Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 211029 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 211029R01
Date Received: 10/15/2021

Lab/Cor Sample No.: S1
Client Sample No.: 40535.488-10/13/2021-TEM01
Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/21/2021	Hitachi 7000FA	20000

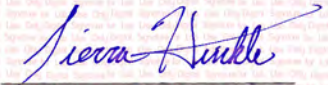
Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	25.80%
Total Regulated Asbestos Percent	ND*	Organics	59.86%
		Residue	14.34%
		Total Other Non-Asbestos Percent	100.00%

Lab/Cor Sample No.: S2
Client Sample No.: 40535.488-10/13/2021-TEM02
Description:

Analyst(s)	Analysis Date	Microscope	Magnification
SH	10/21/2021	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	23.88%
Total Regulated Asbestos Percent	ND*	Organics	64.90%
		Residue	11.23%
		Total Other Non-Asbestos Percent	100.00%

Reviewed by:


 X
Sierra Hinkle
 Technician/Analyst

ND* - None Detected
 Regulated Asbestos - Chrysotile, Actinolite, Tremolite, Amosite, Crocidolite, Anthophyllite

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 211029 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 211029R01
Date Received: 10/15/2021

Lab/Cor Sample No: S1
Client Sample No: 40535.488-10/13/2021-TEM01
Description:

Container Weight	13.45939 g	Hydrolysis Filter PreWeight	13.50074 g
Weight Before Ash	13.52977 g	Filter Post Hydrolysis	13.51074 g
Orig Sample Weight	0.07038 g	After Hydrolysis Weight	0.01000 g
Weight After Ash	13.48764 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.02825 g	Hydrolysis Adjusted Weight	0.01009 g
Percent Organics	59.86%	Begin Volume	20 ml
		Acid Solubles	25.80%

Grid	Analyte	Visual Estimate	Elements	Comment
G7	None Detect (Regulated Asbestos)	0.00%		
G8	None Detect (Regulated Asbestos)	0.00%		

Lab/Cor Sample No: S2
Client Sample No: 40535.488-10/13/2021-TEM02
Description:

Container Weight	13.49004 g	Hydrolysis Filter PreWeight	13.52908 g
Weight Before Ash	13.58841 g	Filter Post Hydrolysis	13.54003 g
Orig Sample Weight	0.09837 g	After Hydrolysis Weight	0.01095 g
Weight After Ash	13.52457 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.03453 g	Hydrolysis Adjusted Weight	0.01104 g
Percent Organics	64.90%	Begin Volume	20 ml
		Acid Solubles	23.88%

Grid	Analyte	Visual Estimate	Elements	Comment
G7	None Detect (Regulated Asbestos)	0.00%		
G8	None Detect (Regulated Asbestos)	0.00%		

Reviewed by:

Sierra Hinkle
 X

Sierra Hinkle
Technician/Analyst

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 220163
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
 Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 220163R01
Report Date: 2/22/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Sampled:	Date Received:
220163 - S1	40535.488-2/17/2022-TEM01	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	Hornblends Present	2/17/2022	2/18/2022
220163 - S2	40535.488-2/17/2022-TEM02	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	Hornblends Present	2/17/2022	2/18/2022
220163 - S3	40535.488-2/17/2022-TEM03	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		2/17/2022	2/18/2022
220163 - S4	40535.488-2/17/2022-TEM04	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	Hornblends Present	2/17/2022	2/18/2022


ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

Sincerely,


 X
Shauna Bjornson
 Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220163 SEA Report Number: 220163R01
 Client: PBS Engineering + Environmental Date Received: 2/18/2022
 Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No.: S1 Sample Notes:
 Client Sample No.: 40535.488-2/17/2022-TEM01 Hornblends Present

Analyst(s)	Analysis Date	Microscope	Magnification
SB	2/22/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.10%	Acid Solubles	1.18%
Chrysotile	0.10%	Organics	2.07%
Total Asbestos Percent	0.19%	Residue	96.55%
		Total Other Non-Asbestos Percent	99.81%

Lab/Cor Sample No.: S2 Sample Notes:
 Client Sample No.: 40535.488-2/17/2022-TEM02 Hornblends Present

Analyst(s)	Analysis Date	Microscope	Magnification
SB	2/22/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.15%	Acid Solubles	1.63%
Total Asbestos Percent	0.15%	Organics	1.44%
		Residue	96.79%
		Total Other Non-Asbestos Percent	99.85%

Lab/Cor Sample No.: S3
 Client Sample No.: 40535.488-2/17/2022-TEM03

Analyst(s)	Analysis Date	Microscope	Magnification
SB	2/22/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	0.09%	Acid Solubles	1.10%
Total Asbestos Percent	0.09%	Organics	4.38%
		Residue	94.42%
		Total Other Non-Asbestos Percent	99.91%

Lab/Cor Sample No.: S4 Sample Notes:
 Client Sample No.: 40535.488-2/17/2022-TEM04 Hornblends Present

Analyst(s)	Analysis Date	Microscope	Magnification
SB	2/22/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Anthophyllite	0.10%	Acid Solubles	1.68%
Total Asbestos Percent	0.10%	Organics	0.79%
		Residue	97.43%
		Total Other Non-Asbestos Percent	99.90%

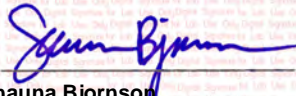
**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
Final Report**

Job Number: 220163 SEA
Client: PBS Engineering + Environmental

Report Number: 220163R01
Date Received: 2/18/2022

Reviewed by:

Digital Signature by Shauna Bjornson for Job 220163
By Shauna Bjornson for Job 220163
X



Shauna Bjornson
Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220163 **SEA** **Report Number:** 220163R01
Client: PBS Engineering + Environmental **Date Received:** 2/18/2022
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1 **SampleNotes:**
Client Sample No: 40535.488-2/17/2022-TEM01 Hornblends Present

Container Weight	13.66820 g	Hydrolysis Filter PreWeight	13.70670 g
Weight Before Ash	14.43222 g	Filter Post Hydrolysis	14.43200 g
Orig Sample Weight	0.76402 g	After Hydrolysis Weight	0.72530 g
Weight After Ash	14.41638 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.74818 g	Hydrolysis Adjusted Weight	0.73916 g
Percent Organics	2.07%	Begin Volume	20 ml
		Acid Solubles	1.18%

Grid	Analyte	Visual Estimate	Elements	Comment	
G10	Actinolite	0.10%	Mg, Si, Ca, Fe		
			ItemType	ItemNum	Confirmed
			Brightfield	J67658BF	Comment
			Diffraction	J67658DF	SB 2/22/2022
			Spectra	J67658SP	SB 2/22/2022
G10	Chrysotile	0.10%	Mg, Si		
			ItemType	ItemNum	Confirmed
			Brightfield	J67659BF	Comment
			Diffraction	J67659DF	SB 2/22/2022
			Spectra	J67659SP	SB 2/22/2022
G11	Actinolite	0.10%			
G11	Chrysotile	0.10%			

Lab/Cor Sample No: S2 **SampleNotes:**
Client Sample No: 40535.488-2/17/2022-TEM02 Hornblends Present

Container Weight	13.42827 g	Hydrolysis Filter PreWeight	13.46835 g
Weight Before Ash	13.90613 g	Filter Post Hydrolysis	13.92000 g
Orig Sample Weight	0.47786 g	After Hydrolysis Weight	0.45165 g
Weight After Ash	13.89632 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.46805 g	Hydrolysis Adjusted Weight	0.46028 g
Percent Organics	1.44%	Begin Volume	20 ml
		Acid Solubles	1.63%

Grid	Analyte	Visual Estimate	Elements	Comment	
G7	Actinolite	0.20%	Mg, Al, Si, Ca, Fe		
			ItemType	ItemNum	Confirmed
			Brightfield	J67660BF	Comment
			Diffraction	J67660DF	SB 2/22/2022
			Spectra	J67660SP	SB 2/22/2022
G8	Actinolite	0.10%			

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220163 SEA
 Client: PBS Engineering + Environmental

Report Number: 220163R01
 Date Received: 2/18/2022

Lab/Cor Sample No: S3
 Client Sample No: 40535.488-2/17/2022-TEM03

Container Weight	13.28347 g	Hydrolysis Filter PreWeight	13.32305 g
Weight Before Ash	13.83007 g	Filter Post Hydrolysis	13.83000 g
Orig Sample Weight	0.54660 g	After Hydrolysis Weight	0.50695 g
Weight After Ash	13.80612 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.52265 g	Hydrolysis Adjusted Weight	0.51664 g
Percent Organics	4.38%	Begin Volume	20 ml
		Acid Solubles	1.10%

Grid	Analyte	Visual Estimate	Elements	Comment
G4	Chrysotile	0.10%	Mg, Si	
			ItemType	ItemNum
			Diffraction	J67661DF
			Spectra	J67661SP
			Brightfield	J67661BF
			Confirmed	Comment
			SB 2/22/2022	0.53nm ROW SPACING
			SB 2/22/2022	

G5 Chrysotile 0.10%

Lab/Cor Sample No: S4
 Client Sample No: 40535.488-2/17/2022-TEM04


SampleNotes:
 Hornblends Present

Container Weight	13.58258 g	Hydrolysis Filter PreWeight	13.62176 g
Weight Before Ash	14.29259 g	Filter Post Hydrolysis	14.31165 g
Orig Sample Weight	0.71001 g	After Hydrolysis Weight	0.68989 g
Weight After Ash	14.28696 g	Hydrolysis Aliquot	99.625 ml
Particulate After Ash	0.70438 g	Hydrolysis Adjusted Weight	0.69249 g
Percent Organics	0.79%	Begin Volume	100 ml
		Acid Solubles	1.68%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Anthophyllite	0.10%	Mg, Si, Fe	
			ItemType	ItemNum
			Brightfield	J67662BF
			Diffraction	J67662DF
			Spectra	J67662SP
			Confirmed	Comment
			SB 2/22/2022	0.53nm ROW SPACING
			SB 2/22/2022	

G11 Anthophyllite 0.10%

Reviewed by:


 Shauna Bjornson
 Analyst

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 220306

Client: PBS Engineering + Environmental

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Olympic South Abatement and Repairs

Project No.: 40535.488

PO Number:

Sub Project:

Reference No.:

Report Number: 220306R02

Report Date: 3/31/2022

Report Note: R01 was the Preliminary Report

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Received:
220306 - S1	40535.488-3/25/22-TEM01	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S2	40535.488-3/25/22-TEM02	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S3	40535.488-3/25/22-TEM03	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S4	40535.488-3/25/22-TEM04	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S5	40535.488-3/25/22-TEM05	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S6	40535.488-3/25/22-TEM06	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S7	40535.488-3/25/22-TEM07	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S8	40535.488-3/25/22-TEM08	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022
220306 - S9	40535.488-3/25/22-TEM09	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		3/28/2022

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Final Report

Job Number: 220306

Report Number: 220306R02

Client: PBS Engineering + Environmental

Report Date: 3/31/2022

Project Name: Pierce College Olympic South Abatement and Repairs


ELAP Item 198.4 - Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of TEM - Bulk Semi-Quantitative (Modified) regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


X
Kate March
Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220306 SEA
 Client: PBS Engineering + Environmental
 Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220306R02
 Date Received: 3/28/2022

Lab/Cor Sample No.: S1
 Client Sample No.: 40535.488-3/25/22-TEM01

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.29%	Acid Solubles	16.55%
Total Asbestos Percent	0.29%	Organics	5.99%
		Residue	77.16%
		Total Other Non-Asbestos Percent	99.71%

Lab/Cor Sample No.: S2
 Client Sample No.: 40535.488-3/25/22-TEM02

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.07%	Acid Solubles	27.09%
Chrysotile	0.07%	Organics	5.47%
Total Asbestos Percent	0.13%	Residue	67.30%
		Total Other Non-Asbestos Percent	99.87%

Lab/Cor Sample No.: S3
 Client Sample No.: 40535.488-3/25/22-TEM03

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Tremolite	0.05%	Acid Solubles	32.12%
Total Asbestos Percent	0.05%	Organics	5.53%
		Residue	62.30%
		Total Other Non-Asbestos Percent	99.95%

Lab/Cor Sample No.: S4
 Client Sample No.: 40535.488-3/25/22-TEM04

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.08%	Acid Solubles	17.70%
Total Asbestos Percent	0.08%	Organics	5.59%
		Residue	76.63%
		Total Other Non-Asbestos Percent	99.92%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220306 SEA
 Client: PBS Engineering + Environmental

Report Number: 220306R02
 Date Received: 3/28/2022

Lab/Cor Sample No.: S5
 Client Sample No.: 40535.488-3/25/22-TEM05

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Tremolite	0.07%	Acid Solubles	22.01%
Total Asbestos Percent	0.07%	Organics	6.88%
		Residue	71.04%
		Total Other Non-Asbestos Percent	99.93%

Lab/Cor Sample No.: S6
 Client Sample No.: 40535.488-3/25/22-TEM06

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	27.12%
		Organics	6.88%
		Residue	66.00%
		Total Other Non-Asbestos Percent	100.00%

Lab/Cor Sample No.: S7
 Client Sample No.: 40535.488-3/25/22-TEM07

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.05%	Acid Solubles	28.44%
Total Asbestos Percent	0.05%	Organics	9.39%
		Residue	62.12%
		Total Other Non-Asbestos Percent	99.95%

Lab/Cor Sample No.: S8
 Client Sample No.: 40535.488-3/25/22-TEM08

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.16%	Acid Solubles	36.13%
Chrysotile	0.05%	Organics	0.62%
Total Asbestos Percent	0.21%	Residue	63.05%
		Total Other Non-Asbestos Percent	99.79%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220306 SEA
 Client: PBS Engineering + Environmental

Report Number: 220306R02
 Date Received: 3/28/2022

Lab/Cor Sample No.: S9
 Client Sample No.: 40535.488-3/25/22-TEM09

Analyst(s)	Analysis Date	Microscope	Magnification
KM	3/31/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.15%	Acid Solubles	23.10%
Chrysotile	0.03%	Organics	9.60%
Total Asbestos Percent	0.19%	Residue	67.12%
		Total Other Non-Asbestos Percent	99.81%

Reviewed by:

Kate March
 X
 Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220306 SEA
 Client: PBS Engineering + Environmental

Report Number: 220306R02
 Date Received: 3/28/2022

Lab/Cor Sample No: S3
 Client Sample No: 40535.488-3/25/22-TEM03

Container Weight	13.61877 g	Hydrolysis Filter PreWeight	13.65881 g
Weight Before Ash	13.69414 g	Filter Post Hydrolysis	13.70539 g
Orig Sample Weight	0.07537 g	After Hydrolysis Weight	0.04658 g
Weight After Ash	13.68997 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.07120 g	Hydrolysis Adjusted Weight	0.04699 g
Percent Organics	5.53%	Begin Volume	20 ml
		Acid Solubles	32.12%

Grid	Analyte	Visual Estimate	Elements	Comment
G4	Tremolite	0.05%	Mg, Si, Ca, Fe	
			ItemType ItemNum	Confirmed Comment
			Spectra J67925SP	KM 3/31/2022
			Diffraction J67925DF	KM 3/31/2022 0.53nm ROW SPACING
			Brightfield J67925BF	

G5 Tremolite 0.10%

Lab/Cor Sample No: S4
 Client Sample No: 40535.488-3/25/22-TEM04

Container Weight	13.65465 g	Hydrolysis Filter PreWeight	13.69640 g
Weight Before Ash	14.30111 g	Filter Post Hydrolysis	14.18794 g
Orig Sample Weight	0.64646 g	After Hydrolysis Weight	0.49154 g
Weight After Ash	14.26497 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.61032 g	Hydrolysis Adjusted Weight	0.49588 g
Percent Organics	5.59%	Begin Volume	20 ml
		Acid Solubles	17.70%

Grid	Analyte	Visual Estimate	Elements	Comment
G4	Actinolite	0.20%	Mg, Al, Si, Ca, Mn, Fe	Additional Si from surrounding material.
			ItemType ItemNum	Confirmed Comment
			Spectra J67926SP	KM 3/31/2022
			Diffraction J67926DF	KM 3/31/2022 0.53nm ROW SPACING
			Brightfield J67926BF	

G5 Actinolite 0.01%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220306 SEA
 Client: PBS Engineering + Environmental

Report Number: 220306R02
 Date Received: 3/28/2022

Lab/Cor Sample No: S5
 Client Sample No: 40535.488-3/25/22-TEM05

Container Weight	13.67210 g	Hydrolysis Filter PreWeight	13.71279 g
Weight Before Ash	13.93469 g	Filter Post Hydrolysis	13.89788 g
Orig Sample Weight	0.26259 g	After Hydrolysis Weight	0.18509 g
Weight After Ash	13.91663 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.24453 g	Hydrolysis Adjusted Weight	0.18672 g
Percent Organics	6.88%	Begin Volume	20 ml
		Acid Solubles	22.01%

Grid	Analyte	Visual Estimate	Elements	Comment
G4	Tremolite	0.10%		
G5	Tremolite	0.10%	Mg, Si, Ca, Fe	
			ItemType	ItemNum
			Spectra	J67927SP
			Diffraction	J67927DF
			Brightfield	J67927BF
			Confirmed	Comment
			KM	3/31/2022
			KM	3/31/2022
				0.53nm ROW SPACING

Lab/Cor Sample No: S6
 Client Sample No: 40535.488-3/25/22-TEM06

Container Weight	13.72945 g	Hydrolysis Filter PreWeight	13.77062 g
Weight Before Ash	13.84788 g	Filter Post Hydrolysis	13.84810 g
Orig Sample Weight	0.11843 g	After Hydrolysis Weight	0.07748 g
Weight After Ash	13.83973 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.11028 g	Hydrolysis Adjusted Weight	0.07816 g
Percent Organics	6.88%	Begin Volume	20 ml
		Acid Solubles	27.12%

Grid	Analyte	Visual Estimate	Elements	Comment
G4	None Detect (Regulated Asbestos)	0.00%		
G5	None Detect (Regulated Asbestos)	0.00%		

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220306 SEA
 Client: PBS Engineering + Environmental

Report Number: 220306R02
 Date Received: 3/28/2022

Lab/Cor Sample No: S7
 Client Sample No: 40535.488-3/25/22-TEM07

Container Weight	13.34871 g	Hydrolysis Filter PreWeight	13.38795 g
Weight Before Ash	13.66157 g	Filter Post Hydrolysis	13.58074 g
Orig Sample Weight	0.31286 g	After Hydrolysis Weight	0.19279 g
Weight After Ash	13.63219 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.28348 g	Hydrolysis Adjusted Weight	0.19449 g
Percent Organics	9.39%	Begin Volume	20 ml
		Acid Solubles	28.44%

Grid	Analyte	Visual Estimate	Elements	Comment		
G4	Actinolite	0.05%	Mg, Al, Si, Ca, Ti, Mn, Fe			
			ItemType	ItemNum	Confirmed	Comment
			Spectra	J67928SP	KM 3/31/2022	
			Diffraction	J67928DF	KM 3/31/2022	0.53nm ROW SPACING
			Brightfield	J67928BF		

G5 Actinolite 0.10%

Lab/Cor Sample No: S8
 Client Sample No: 40535.488-3/25/22-TEM08

Container Weight	13.84629 g	Hydrolysis Filter PreWeight	13.88416 g
Weight Before Ash	14.22691 g	Filter Post Hydrolysis	14.12280 g
Orig Sample Weight	0.38062 g	After Hydrolysis Weight	0.23864 g
Weight After Ash	14.22454 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.37825 g	Hydrolysis Adjusted Weight	0.24075 g
Percent Organics	0.62%	Begin Volume	20 ml
		Acid Solubles	36.13%

Grid	Analyte	Visual Estimate	Elements	Comment		
G4	Actinolite	0.30%	Mg, Si, Ca, Mn, Fe			
			ItemType	ItemNum	Confirmed	Comment
			Spectra	J67929SP	KM 3/31/2022	
			Diffraction	J67929DF	KM 3/31/2022	0.53nm ROW SPACING
			Brightfield	J67929BF		

G4	Chrysotile	0.05%	Mg, Si			
			ItemType	ItemNum	Confirmed	Comment
			Spectra	J67930SP	KM 3/31/2022	
			Diffraction	J67930DF	KM 3/31/2022	0.53nm ROW SPACING
			Brightfield	J67930BF		

G5 Actinolite 0.20%

G5 Chrysotile 0.10%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220306 SEA
 Client: PBS Engineering + Environmental

Report Number: 220306R02
 Date Received: 3/28/2022

Lab/Cor Sample No: S9
 Client Sample No: 40535.488-3/25/22-TEM09

Container Weight	13.64717 g	Hydrolysis Filter PreWeight	13.68973 g
Weight Before Ash	14.37511 g	Filter Post Hydrolysis	14.17537 g
Orig Sample Weight	0.72794 g	After Hydrolysis Weight	0.48564 g
Weight After Ash	14.30525 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.65808 g	Hydrolysis Adjusted Weight	0.48993 g
Percent Organics	9.60%	Begin Volume	20 ml
		Acid Solubles	23.10%

Grid	Analyte	Visual Estimate	Elements	Comment
G4	Actinolite	0.20%	ItemType	Confirmed
			Spectra	KM 3/31/2022
			Diffraction	KM 3/31/2022
			Brightfield	0.53nm ROW SPACING
G4	Chrysotile	0.05%	Mg, Si	Confirmed
			ItemType	KM 3/31/2022
			Spectra	KM 3/31/2022
			Diffraction	0.53nm ROW SPACING
G5	Actinolite	0.25%		
G5	Chrysotile	0.05%		

Reviewed by:

Kate March
 Kate March
 Quality Control Officer

220306



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement & Repairs

Project #: 40535.488

Analysis requested: Semi-quantitative TEM bulk

Date: 3/25/2022

Relinq'd by/Signature: [Signature]

Date/Time: 3/25/2022

Received by/Signature: [Signature]

Date/Time: 3/28/22 0750

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 3 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-3/25/2022-TEM01	Concrete	LV1 former kitchen steps	Labcor
40535.488-3/25/2022-TEM02	Concrete	LV1 near previous 165 restroom	
40535.488-3/25/2022-TEM03	Concrete	LV1 northeast area at column near double doors	
40535.488-3/25/2022-TEM04	Concrete	LV2 previous room 284 north floor	
40535.488-3/25/2022-TEM05	Concrete	LV2 previous room 268	
40535.488-3/25/2022-TEM06	Concrete	LV2 previous room 260	
40535.488-3/25/2022-TEM07	Concrete	LV3 previous room 323 lower floor slab	
40535.488-3/25/2022-TEM08	Concrete	LV3 northeast lower slab below room 329	
40535.488-3/25/2022-TEM09	Concrete	LV3 northwest lower slab below room 327	

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Report

Job Number: 220360
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
 Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 220360R01
Report Date: 4/8/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Received:
220360 - S1	40535.488-4/7/2022-TEM01	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	Dust like material - insufficient amount submitted for standard bulk test.	4/7/2022
220360 - S2	40535.488-4/7/2022-TEM02	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	Dust like material - insufficient amount submitted for standard bulk test.	4/7/2022

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,



X
Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220360 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220360R01
Date Received: 4/7/2022

Lab/Cor Sample No.: S1
Client Sample No.: 40535.488-4/7/2022-TEM01

Sample Notes:
 Dust like material - insufficient amount
 submitted for standard bulk test.

Analyst(s)	Analysis Date	Microscope	Magnification
KM	4/8/2022	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.16%	Acid Solubles	3.49%
Total Asbestos Percent	0.16%	Organics	42.51%
		Residue	53.84%
		Total Other Non-Asbestos Percent	99.84%

Lab/Cor Sample No.: S2
Client Sample No.: 40535.488-4/7/2022-TEM02

Sample Notes:
 Dust like material - insufficient amount
 submitted for standard bulk test.

Analyst(s)	Analysis Date	Microscope	Magnification
KM	4/8/2022	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.10%	Acid Solubles	7.58%
Total Asbestos Percent	0.10%	Organics	65.22%
		Residue	27.10%
		Total Other Non-Asbestos Percent	99.90%

Reviewed by:

Kate March
 Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220360 SEA
 Client: PBS Engineering + Environmental
 Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220360R01
 Date Received: 4/7/2022

Lab/Cor Sample No: S1
 Client Sample No: 40535.488-4/7/2022-TEM01

SampleNotes:
 Dust like material - insufficient amount submitted
 for standard bulk test.

Container Weight	13.64369 g	Hydrolysis Filter PreWeight	13.68695 g
Weight Before Ash	13.68283 g	Filter Post Hydrolysis	13.70790 g
Orig Sample Weight	0.03914 g	After Hydrolysis Weight	0.02095 g
Weight After Ash	13.66619 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.02250 g	Hydrolysis Adjusted Weight	0.02113 g
Percent Organics	42.51%	Begin Volume	20 ml
		Acid Solubles	3.49%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Actinolite	0.35%	Mg, Al, Si, Ca, Mn, Fe	
			ItemType	ItemNum
			Spectra	F67993SP
			Diffraction	F67993DF
			Brightfield	F67993BF
			Confirmed	Comment
			KM	4/8/2022
			KM	4/8/2022
				0.53nm ROW SPACING

G11	Actinolite	0.25%		
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Lab/Cor Sample No: S2
 Client Sample No: 40535.488-4/7/2022-TEM02

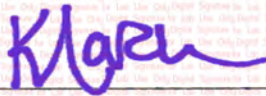
SampleNotes:
 Dust like material - insufficient amount submitted
 for standard bulk test.

Container Weight	13.75222 g	Hydrolysis Filter PreWeight	13.79036 g
Weight Before Ash	13.79788 g	Filter Post Hydrolysis	13.80267 g
Orig Sample Weight	0.04566 g	After Hydrolysis Weight	0.01231 g
Weight After Ash	13.76810 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.01588 g	Hydrolysis Adjusted Weight	0.01242 g
Percent Organics	65.22%	Begin Volume	20 ml
		Acid Solubles	7.58%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Actinolite	0.25%		
			ItemType	ItemNum
			Spectra	F67995SP
			Diffraction	F67995DF
			Brightfield	F67995BF
			Confirmed	Comment
			KM	4/8/2022
			KM	4/8/2022
				0.53nm ROW SPACING

G11	Actinolite	0.50%		
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Reviewed by:



Kate March
 Quality Control Officer

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Report

Job Number: 220361
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
 Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 220361R01
Report Date: 4/8/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Received:
220361 - S1	40535.488-4/7/2022-TEM03	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		4/8/2022
220361 - S2	40535.488-4/7/2022-TEM04	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		4/8/2022

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X
Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220361 **SEA** **Report Number:** 220361R01
Client: PBS Engineering + Environmental **Date Received:** 4/8/2022
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No.: S1
Client Sample No.: 40535.488-4/7/2022-TEM03

Analyst(s)	Analysis Date	Microscope	Magnification
KM	4/8/2022	Hitachi 7000FA	20000


Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.40%	Acid Solubles	29.19%
Chrysotile	0.10%	Organics	6.31%
Total Asbestos Percent	0.50%	Residue	64.01%
		Total Other Non-Asbestos Percent	99.50%

Lab/Cor Sample No.: S2
Client Sample No.: 40535.488-4/7/2022-TEM04

Analyst(s)	Analysis Date	Microscope	Magnification
KM	4/8/2022	Hitachi 7000FA	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	0.07%	Acid Solubles	27.29%
Total Asbestos Percent	0.07%	Organics	4.75%
		Residue	67.89%
		Total Other Non-Asbestos Percent	99.93%

Reviewed by:


 Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220361 **SEA** **Report Number:** 220361R01
Client: PBS Engineering + Environmental **Date Received:** 4/8/2022
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1
Client Sample No: 40535.488-4/7/2022-TEM03

Container Weight	13.67340 g	Hydrolysis Filter PreWeight	13.71213 g
Weight Before Ash	13.75582 g	Filter Post Hydrolysis	13.76483 g
Orig Sample Weight	0.08242 g	After Hydrolysis Weight	0.05270 g
Weight After Ash	13.75062 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.07722 g	Hydrolysis Adjusted Weight	0.05317 g
Percent Organics	6.31%	Begin Volume	20 ml
		Acid Solubles	29.19%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Chrysotile	0.20%	Mg, Si	
			ItemType	Confirmed
			Spectra	ItemNum
			Diffraction	F67997SP
			Brightfield	F67997DF
				F67997BF
				KM 4/8/2022
				KM 4/8/2022
				0.53nm ROW SPACING
G10	Actinolite	0.50%	Mg, Al, Si, K, Ca, Ti, Mn, Fe	
			ItemType	Confirmed
			Spectra	ItemNum
			Diffraction	F67998SP
			Brightfield	F67998DF
				F67998BF
				KM 4/8/2022
				KM 4/8/2022
				0.53nm ROW SPACING
G11	Chrysotile	0.10%		
G11	Actinolite	0.75%		

Lab/Cor Sample No: S2
Client Sample No: 40535.488-4/7/2022-TEM04

Container Weight	13.76644 g	Hydrolysis Filter PreWeight	13.80710 g
Weight Before Ash	13.89465 g	Filter Post Hydrolysis	13.89347 g
Orig Sample Weight	0.12821 g	After Hydrolysis Weight	0.08637 g
Weight After Ash	13.88856 g	Hydrolysis Aliquot	19.825 ml
Particulate After Ash	0.12212 g	Hydrolysis Adjusted Weight	0.08713 g
Percent Organics	4.75%	Begin Volume	20 ml
		Acid Solubles	27.29%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Chrysotile	0.10%	Mg, Si	
			ItemType	Confirmed
			Diffraction	ItemNum
			Brightfield	F67999DF
			Spectra	F67999BF
				F67999SP
				KM 4/8/2022
				KM 4/8/2022
				0.53nm ROW SPACING
G11	Chrysotile	0.10%		

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
Final Report**

Job Number: 220361 SEA
Client: PBS Engineering + Environmental

Report Number: 220361R01
Date Received: 4/8/2022

Reviewed by:

Digitally signed by Kate March, DN: cn=Kate March, o=Lab/Cor, Inc., ou=Quality Control, email=kate@labcor.net, c=US


X
Kate March
Quality Control Officer

EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative Report

Job Number: 220479

Client: PBS Engineering + Environmental

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Olympic South Abatement and Repairs

Project No.: 40535.488

PO Number:

Sub Project:

Reference No.:

Report Number: 220479R01

Report Date: 5/10/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Sampled:	Date Received:
220479 - S1	40535.488-5/5/2022-TEM01	EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative		5/5/2022	5/6/2022
220479 - S2	40535.488-5/5/2022-TEM02	EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative		5/5/2022	5/6/2022
220479 - S3	40535.488-5/5/2022-TEM03	EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative		5/5/2022	5/6/2022
220479 - S4	40535.488-5/5/2022-TEM04	EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative		5/5/2022	5/6/2022
220479 - S5	40535.488-5/5/2022-TEM05	EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative		5/5/2022	5/6/2022
220479 - S6	40535.488-5/5/2022-TEM06	EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative		5/5/2022	5/6/2022

EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative Report

Job Number: 220479

Report Number: 220479R01

Client: PBS Engineering + Environmental

Report Date: 5/10/2022

Project Name: Pierce College Olympic South Abatement and Repairs

EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative Preparation of the above sample was conducted in accordance with the EPA protocol EPA/600/R 93/116 for the identification of regulated asbestiform minerals in bulk building materials. The Semi-Quantitative designation applies to the TEM analysis; the asbestos weight percent is calculated from the visual asbestos percentage observed during analysis at both high and low magnifications on the transmission electron microscope (TEM).

Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief dissolution in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. The suspension was then filtered onto a dry, pre weighed 0.1 micron polycarbonate (PC) filter and a series of 0.22 micron mixed cellulose ester (MCE) filter. After drying, the filter was weighed again (Hydrolysis Adjusted Weight). The sample was coated with a thin film of carbon in a vacuum evaporator. After dissolution of the filter debris in N,N-dimethylformamide and acetone, the sample was placed on a 200 mesh copper TEM grid and examined by TEM microscopy.

After confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the concentration of asbestiform regulated minerals relative to the non-asbestos was determined. Fibers with an aspect ratio of at least 3:1 with proper diffraction and chemistry were counted as regulated asbestiform mineral types. "Trace" is reported for those samples whose percent asbestos is below 1.0%.

This test report relates only to the items tested in this report. The scope of this analysis is to differentiate purified regulated asbestiform minerals that have been added to bulk building materials. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,



X
Kate March
Quality Control Officer

**EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative -
 Final Report**

Job Number: 220479 SEA
 Client: PBS Engineering + Environmental
 Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220479R01
 Date Received: 5/6/2022

Lab/Cor Sample No.: S1
 Client Sample No.: 40535.488-5/5/2022-TEM01

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/10/2022	JEOL-Sr 1200	20000
KM	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	1.34%	Acid Solubles	32.28%
Chrysotile	4.55%	Organics	14.13%
Non Asbestos Mineral	2.14%	Residue	45.55%
Total Asbestos Percent	5.89%	Total Other Non-Asbestos Percent	91.96%

Lab/Cor Sample No.: S2
 Client Sample No.: 40535.488-5/5/2022-TEM02

Analyst(s)	Analysis Date	Microscope	Magnification
KM	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	3.09%	Acid Solubles	27.82%
Non Asbestos Mineral	2.24%	Organics	16.07%
Total Asbestos Percent	3.09%	Residue	50.77%
		Total Other Non-Asbestos Percent	94.67%

Lab/Cor Sample No.: S3
 Client Sample No.: 40535.488-5/5/2022-TEM03

Analyst(s)	Analysis Date	Microscope	Magnification
KM	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	2.40%	Acid Solubles	27.41%
Non Asbestos Mineral	1.72%	Organics	3.97%
Total Asbestos Percent	2.40%	Residue	64.50%
		Total Other Non-Asbestos Percent	95.88%

Lab/Cor Sample No.: S4
 Client Sample No.: 40535.488-5/5/2022-TEM04

Analyst(s)	Analysis Date	Microscope	Magnification
KM	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.96%	Acid Solubles	27.51%
Non Asbestos Mineral	3.37%	Organics	5.02%
Total Asbestos Percent	0.96%	Residue	63.13%
		Total Other Non-Asbestos Percent	95.67%

**EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative -
 Final Report**

Job Number: 220479 SEA
 Client: PBS Engineering + Environmental

Report Number: 220479R01
 Date Received: 5/6/2022

Lab/Cor Sample No.: S5
 Client Sample No.: 40535.488-5/5/2022-TEM05

Analyst(s)	Analysis Date	Microscope	Magnification
KM	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.14%	Acid Solubles	23.52%
Total Asbestos Percent	0.14%	Organics	4.35%
		Residue	71.99%
		Total Other Non-Asbestos Percent	99.86%

Lab/Cor Sample No.: S6
 Client Sample No.: 40535.488-5/5/2022-TEM06

Analyst(s)	Analysis Date	Microscope	Magnification
KM	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.08%	Acid Solubles	28.30%
Non Asbestos Mineral	0.33%	Organics	5.35%
Total Asbestos Percent	0.08%	Residue	65.94%
		Total Other Non-Asbestos Percent	99.59%

Reviewed by:


 X
 Kate March
 Quality Control Officer

**EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative -
 Final Report**

Job Number: 220479 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220479R01
Date Received: 5/6/2022

Lab/Cor Sample No: S1
Client Sample No: 40535.488-5/5/2022-TEM01

Container Weight	13.79207 g	Hydrolysis Filter PreWeight	13.83407 g
Weight Before Ash	14.08441 g	Filter Post Hydrolysis	13.98971 g
Orig Sample Weight	0.29234 g	After Hydrolysis Weight	0.15564 g
Weight After Ash	14.04310 g	Hydrolysis Aliquot	19.87 ml
Particulate After Ash	0.25103 g	Hydrolysis Adjusted Weight	0.15666 g
Percent Organics	14.13%	Begin Volume	20 ml
		Acid Solubles	32.28%

Grid	Analyte	Visual Estimate	Elements	Comment
G3	Actinolite	2.00%	Mg, Si, Ca Fe	
			ItemType ItemNum	Confirmed Comment
			Brightfield J68182BF	
			Diffraction J68182DF	SB 5/10/2022 0.53nm ROW SPACING
			Spectra J68182SP	SB 5/10/2022
G3	Chrysotile	7.00%	Mg, Si	
			ItemType ItemNum	Confirmed Comment
			Brightfield J68183BF	
			Diffraction J68183DF	SB 5/10/2022 0.53nm ROW SPACING
			Spectra J68183SP	SB 5/10/2022
G3	Non Asbestos Mineral	3.00%	Si Fibers And Al, Si Fibers Present	
G4	Actinolite	3.00%		
G4	Chrysotile	10.00%		
G4	Non Asbestos Mineral	5.00%	Si Fibers And Al, Si Fibers Present	Chrysotile Look Alike

Lab/Cor Sample No: S2
Client Sample No: 40535.488-5/5/2022-TEM02

Container Weight	13.87545 g	Hydrolysis Filter PreWeight	13.91798 g
Weight Before Ash	14.35297 g	Filter Post Hydrolysis	14.18480 g
Orig Sample Weight	0.47752 g	After Hydrolysis Weight	0.26682 g
Weight After Ash	14.27621 g	Hydrolysis Aliquot	19.92 ml
Particulate After Ash	0.40076 g	Hydrolysis Adjusted Weight	0.26789 g
Percent Organics	16.07%	Begin Volume	20 ml
		Acid Solubles	27.82%

Grid	Analyte	Visual Estimate	Elements	Comment
G5	Chrysotile	5.00%	Mg, Si	
			ItemType ItemNum	Confirmed Comment
			Spectra J68184SP	KM 5/10/2022
			Diffraction J68184DF	KM 5/10/2022 0.53nm ROW SPACING
			Brightfield J68184BF	
G5	Non Asbestos Mineral	3.00%		
G6	Chrysotile	6.00%		
G6	Non Asbestos Mineral	5.00%	Al, Si And Si Fibers Present	Chrysotile Look alikes

**EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative -
 Final Report**

Job Number: 220479 SEA
 Client: PBS Engineering + Environmental

Report Number: 220479R01
 Date Received: 5/6/2022

Lab/Cor Sample No: S3
 Client Sample No: 40535.488-5/5/2022-TEM03

Container Weight	13.88681 g	Hydrolysis Filter PreWeight	13.92843 g
Weight Before Ash	14.19178 g	Filter Post Hydrolysis	14.13638 g
Orig Sample Weight	0.30497 g	After Hydrolysis Weight	0.20795 g
Weight After Ash	14.17967 g	Hydrolysis Aliquot	19.875 ml
Particulate After Ash	0.29286 g	Hydrolysis Adjusted Weight	0.20926 g
Percent Organics	3.97%	Begin Volume	20 ml
		Acid Solubles	27.41%

Grid	Analyte	Visual Estimate	Elements	Comment
G3	Chrysotile	5.00%	Mg, Si	
			ItemType ItemNum	Confirmed Comment
			Spectra J68185SP	KM 5/10/2022
			Diffraction J68185DF	KM 5/10/2022 0.53nm ROW SPACING
			Brightfield J68185BF	
G3	Non Asbestos Mineral	3.00%	Si Fibers And Al, Si Fibers Present	Chrysotile Look Alikes
G4	Chrysotile	2.00%		
G4	Non Asbestos Mineral	2.00%	Si Fibers And Al, Si Fibers Present	

Lab/Cor Sample No: S4
 Client Sample No: 40535.488-5/5/2022-TEM04

Container Weight	13.66978 g	Hydrolysis Filter PreWeight	13.70991 g
Weight Before Ash	13.83285 g	Filter Post Hydrolysis	13.81869 g
Orig Sample Weight	0.16307 g	After Hydrolysis Weight	0.10878 g
Weight After Ash	13.82466 g	Hydrolysis Aliquot	19.775 ml
Particulate After Ash	0.15488 g	Hydrolysis Adjusted Weight	0.11002 g
Percent Organics	5.02%	Begin Volume	20 ml
		Acid Solubles	27.51%

Grid	Analyte	Visual Estimate	Elements	Comment
G5	Actinolite	2.00%		
G5	Non Asbestos Mineral	3.00%		
G6	Actinolite	0.85%	Mg, Si, Ca, Fe	
			ItemType ItemNum	Confirmed Comment
			Spectra J68186SP	KM 5/10/2022
			Diffraction J68186DF	KM 5/10/2022 0.53nm ROW SPACING
			Brightfield J68186BF	
G6	Non Asbestos Mineral	7.00%	Al, Si	Chrysotile Look-alike fibers

**EPA 600-R-93-116 - TEM - Bulk Semi-Quantitative -
 Final Report**

Job Number: 220479 SEA
 Client: PBS Engineering + Environmental

Report Number: 220479R01
 Date Received: 5/6/2022

Lab/Cor Sample No: S5
 Client Sample No: 40535.488-5/5/2022-TEM05

Container Weight	13.61811 g	Hydrolysis Filter PreWeight	13.66143 g
Weight Before Ash	13.86390 g	Filter Post Hydrolysis	13.83739 g
Orig Sample Weight	0.24579 g	After Hydrolysis Weight	0.17596 g
Weight After Ash	13.85322 g	Hydrolysis Aliquot	19.85 ml
Particulate After Ash	0.23511 g	Hydrolysis Adjusted Weight	0.17729 g
Percent Organics	4.35%	Begin Volume	20 ml
		Acid Solubles	23.52%

Grid	Analyte	Visual Estimate	Elements	Comment			
G7	Actinolite	0.25%	Mg, Al, Si, Ca, Fe				
			ItemType	ItemNum	Confirmed	Comment	
			Spectra	J68192SP	KM	5/10/2022	
			Diffraction	J68192DF	KM	5/10/2022	0.53nm ROW SPACING
			Brightfield	J68192BF			

G8 Actinolite 0.15%

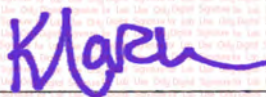
Lab/Cor Sample No: S6
 Client Sample No: 40535.488-5/5/2022-TEM06

Container Weight	13.50155 g	Hydrolysis Filter PreWeight	13.54269 g
Weight Before Ash	13.69390 g	Filter Post Hydrolysis	13.66907 g
Orig Sample Weight	0.19235 g	After Hydrolysis Weight	0.12638 g
Weight After Ash	13.68361 g	Hydrolysis Aliquot	19.805 ml
Particulate After Ash	0.18206 g	Hydrolysis Adjusted Weight	0.12762 g
Percent Organics	5.35%	Begin Volume	20 ml
		Acid Solubles	28.30%

Grid	Analyte	Visual Estimate	Elements	Comment			
G7	Actinolite	0.15%					
G7	Non Asbestos Mineral	0.75%					
G8	Actinolite	0.10%	Mg, Si, Ca, Fe				
			ItemType	ItemNum	Confirmed	Comment	
			Spectra	J68193SP	KM	5/10/2022	
			Diffraction	J68193DF	KM	5/10/2022	0.53nm ROW SPACING
			Brightfield	J68193BF			

G8 Non Asbestos Mineral 0.25% Some small Al, Si fibers present

Reviewed by:



Kate March
 Quality Control Officer



220479

LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement & Repairs

Project #: 40535.488

Analysis requested: Semi-quantitative TEM bulk

Date: 5/6/2022

Relinq'd by/Signature: Peter Stensland / *Peter Stensland*

Date/Time: 5/6/2022

Received by/Signature: *[Signature]*

Date/Time: 5/6/22 5:30pm

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours - *Claire updated to 24 hr by email see email in folder - 5/10*
- 48 Hours
- 3 Days
- Other _____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40535.488-5/5/2022-TEM01	Marblecrete	Olympic S Level 3 S wall W side	Labcor
40535.488-5/5/2022-TEM02	Marblecrete	Olympic S Level 3 S wall E side	
40535.488-5/5/2022-TEM03	Marblecrete	Olympic S Level 2 Stairwell near doorway	
40535.488-5/5/2022-TEM04	Marblecrete	Olympic S Level 1 Stairwell near N penetration	
40535.488-5/5/2022-TEM05	Marblecrete	Olympic S Exterior S elev. W side	
40535.488-5/5/2022-TEM06	Marblecrete	Olympic S Exterior SE corner E column	

Reviewed by: *PH 5/10/22*
 Results Released: _____
 Fax Verbals USPS Email
 Invoice Released: _____
 Fax USPS Email



Contact: Peter Stensland
Company: PBS Engineering & Environmental
Address: 390 NE Emerson Ave Ste C,
Bend, OR 97701

Project / Location: Pierce College Olympic South Abatement and Repairs; 40535.488

PO Number: NA

ALS Work Order: 22050713

NARRATIVE: Analysis performed on FEI Tecnai G2 Spirit TEM equipped with EDAX Octane T Plus Silicon Drift Detector and Z2 Analyzer. Morphology, SAED, and EDXA used to determine fiber species. All sample collection is performed outside ALS and is the sole responsibility of the client. If collection or submission deviates from method requirements then interpretation of results via the method cannot be made.

Asbestos reported as a percentage is based on average calibrated visual estimates by area in the final prepared sample. Samples disposed after 60 days. TEM grids archived 3 years. Results apply only to portions of samples analyzed.

METHOD CODES: "EPA 600" refers to samples directly prepared by grinding with mortar and pestle prior to analysis by TEM according to EPA/600/R-93/116 and results are reported in percentage ranges. Materials which cannot be prepared directly may require ashing, acid digestion, or both prior to analysis. "EPA 600 ASH" refers to resinous or flexible samples ashed in a muffle furnace to remove interfering organics. "EPA 600 ACID" refers to cementitious samples treated with acid to dissolve mineral carbonates. And "ELAP 198.4" refers to samples prepared using both ashing and acid treatment prior to TEM analysis due either to the sample type or to client requirements. "ELAP 198.1" refers to samples analyzed by PLM and reported separately. "ELAP 198.6" refers to ND PLM samples requiring TEM confirmation. All gravimetric samples are reported as percent asbestos present after correcting for mass loss due to ashing, acid treatment, or both. "EPA 600/R-04" refers to ND PLM vermiculite fines analyzed by a modified qualitative version of EPA Method 600/R-04/004 and reported as present or absent only. "ENV 004" refers to ND PLM soil fines analyzed by TEM according to ALS SOP ENV 004 which reports the percentage of asbestos present within the total of all materials observed in the final preparation. "7521 QUAL" refers to the qualitative analysis of ND PLM soil fines by ASTM D7521-16 reported as present or absent only. "7521 QUANT%" refers to the quantitative analysis of ND PLM soil fines reported as ACM by the qualitative TEM procedure. These are gravimetrically prepared and analyzed by TEM using visual area estimate (VAE) for percent asbestos by weight. "7521 QUANT" refers to the quantitative analysis of ND PLM soil fines reported as ND by the qualitative TEM procedure. These are also gravimetrically prepared but are analyzed by TEM using the structure count procedure. The analytical sensitivity (AS) for this method is based on the detection of 1 confirmed asbestos structure in the total area analyzed which according to ASTM Method D7521-16 must be $>0.2\text{mm}^2$ of the final filter. Results for the structure count analysis are reported in structures/ μg based on the sub sample weight. Finally, "+STOP" indicates "positive stop analysis" requested by the client and denotes samples not analyzed because a previous sample in a homogeneous series was determined to be ACM (asbestos containing material). NOTE: All clients are advised to test samples for asbestos by both the PLM and TEM methods developed specifically for the matrix type. However, ALS conducts only the analytical methods specifically requested by the client via the COC. Photomicrographs and/or EDXA spectra available upon request for an additional fee. NA=Not Applicable, ND=None Detected, NON-ACM=Weight % of residue $<1^*$, STR=Structure, TRACE= $<1\%$ (USA), $<0.1\%$ (Canada) *All samples examined regardless of residue Wt%
ALS is accredited for NY ELAP Method 198.4 through New York ELAP (Lab#11371).

Pamela M. Hizar

Pamela M. Hizar

ALS Microscopy Technical Manager

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4388 Glendale-Milford Rd Cincinnati, Oh 45242
513-733-5336 www.alsglobal.com

SAMPLE IDENTIFICATION

	40535.488-	40535.488-	40535.488-	40535.488-	40535.488-
	5/5/2022-	5/5/2022-	5/5/2022-	5/5/2022-	5/5/2022-
Client Sample ID:	TEM01QC	TEM02QC	TEM03QC	TEM04QC	TEM05QC
ALS Sample ID:	22050713-01	22050713-02	22050713-03	22050713-04	22050713-05
Analyst:	Pamela Hizar	Pamela Hizar	Pamela Hizar	Pamela Hizar	Pamela Hizar
Date:	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022
Method Code:	EPA 600 ACID	EPA 600 ACID	EPA 600 ACID	EPA 600 ACID	EPA 600 ACID
Reporting Units:	%	%	%	%	%
AS:	0.1%	0.1%	0.1%	0.1%	0.1%

SAMPLE DESCRIPTION

Homogeneity:	Homogeneous	Homogeneous	Homogeneous	Homogeneous	Homogeneous
Color:	Grey	Grey	Grey	Grey	Grey
Texture:	Compact	Compact	Compact	Compact	Compact
Description:	Cement	Cement	Cement	Cement	Cement

GRAVIMETRIC DATA

Starting Weight (g):	0.4265	0.5904	0.5307	0.4949	0.6835
Final Weight (g):	0.2388	0.3921	0.3401	0.2848	0.4823
Weight % Residue:	55.9906	66.4126	64.0852	57.5470	70.5633

ASBESTOS

Chrysotile:	1.81	1.84	1.56	0.00	0.00
Amosite:	0.00	0.00	0.00	0.00	0.00
Crocidolite:	0.00	0.00	0.00	0.00	0.00
Actinolite:	0.00	0.00	0.00	0.00	0.00
Tremolite:	0.00	0.00	0.00	0.00	0.00
Anthophyllite:	0.00	0.00	0.00	0.00	0.00
Total Asbestos:	1.81	1.84	1.56	0.00	0.00

SAMPLE IDENTIFICATION

40535.488-
5/5/2022-
Client Sample ID: TEM06QC
ALS Sample ID: 22050713-06
Analyst: Pamela Hizar
Date: 5/25/2022
Method Code: EPA 600 ACID
Reporting Units: %
AS: 0.1%

SAMPLE DESCRIPTION

Homogeneity: Homogeneous
Color: Grey
Texture: Compact
Description: Cement

GRAVIMETRIC DATA

Starting Weight (g): 0.6188
Final Weight (g): 0.3955
Weight % Residue: 63.9140

ASBESTOS

Chrysotile: 0.00
Amosite: 0.00
Crocidolite: 0.00
Actinolite: 0.00
Tremolite: 0.00
Anthophyllite: 0.00
Total Asbestos: 0.00

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Report

Job Number: 220481
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
 Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 220481R01
Report Date: 5/10/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Sampled:	Date Received:
220481 - S1	40535.488-5/9/2022-TEM01	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/9/2022	5/9/2022
220481 - S2	40535.488-5/9/2022-TEM02	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/9/2022	5/9/2022
220481 - S3	40535.488-5/9/2022-TEM03	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)	Acid Soluble Weight Adjusted - No Visible Reaction Observed	5/9/2022	5/9/2022
220481 - S4	40535.488-5/9/2022-TEM04	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/9/2022	5/9/2022

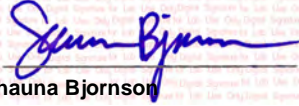
ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,

X 
 Shauna Bjornson
 Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220481 SEA Report Number: 220481R01
 Client: PBS Engineering + Environmental Date Received: 5/9/2022
 Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No.: S1
 Client Sample No.: 40535.488-5/9/2022-TEM01

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	1.83%	Acid Solubles	32.14%
Total Asbestos Percent	1.83%	Organics	6.93%
		Residue	59.10%
		Total Other Non-Asbestos Percent	98.17%

Lab/Cor Sample No.: S2
 Client Sample No.: 40535.488-5/9/2022-TEM02

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	4.44%	Acid Solubles	27.72%
Total Asbestos Percent	4.44%	Organics	3.92%
		Residue	63.92%
		Total Other Non-Asbestos Percent	95.56%

Lab/Cor Sample No.: S3
 Client Sample No.: 40535.488-5/9/2022-TEM03

Sample Notes:
 Acid Soluble Weight Adjusted - No Visible
 Reaction Observed

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	0.32%
		Organics	9.66%
		Residue	90.03%
		Total Other Non-Asbestos Percent	100.00%

Lab/Cor Sample No.: S4
 Client Sample No.: 40535.488-5/9/2022-TEM04

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/10/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
None Detect (Regulated Asbestos)	0.00%	Acid Solubles	13.56%
		Organics	8.73%
		Residue	77.71%
		Total Other Non-Asbestos Percent	100.00%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220481 SEA Report Number: 220481R01
 Client: PBS Engineering + Environmental Date Received: 5/9/2022
 Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1
 Client Sample No: 40535.488-5/9/2022-TEM01

Container Weight	13.64500 g	Hydrolysis Filter PreWeight	13.68725 g
Weight Before Ash	13.77292 g	Filter Post Hydrolysis	13.76373 g
Orig Sample Weight	0.12792 g	After Hydrolysis Weight	0.07648 g
Weight After Ash	13.76406 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.11906 g	Hydrolysis Adjusted Weight	0.07794 g
Percent Organics	6.93%	Begin Volume	20 ml
		Acid Solubles	32.14%

Grid	Analyte	Visual Estimate	Elements	Comment
G3	Chrysotile	2.00%	Mg, Si	
			ItemType	ItemNum
			Brightfield	J68190BF
			Diffraction	J68190DF
			Spectra	J68190SP
			Confirmed	Comment
			SB 5/10/2022	0.53nm ROW SPACING
			SB 5/10/2022	
G4	Chrysotile	4.00%		

Lab/Cor Sample No: S2
 Client Sample No: 40535.488-5/9/2022-TEM02

Container Weight	13.69819 g	Hydrolysis Filter PreWeight	13.73922 g
Weight Before Ash	13.81167 g	Filter Post Hydrolysis	13.81534 g
Orig Sample Weight	0.11348 g	After Hydrolysis Weight	0.07612 g
Weight After Ash	13.80722 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.10903 g	Hydrolysis Adjusted Weight	0.07757 g
Percent Organics	3.92%	Begin Volume	20 ml
		Acid Solubles	27.72%

Grid	Analyte	Visual Estimate	Elements	Comment
G7	Chrysotile	8.00%	Mg, Si	
			ItemType	ItemNum
			Brightfield	J68191BF
			Diffraction	J68191DF
			Spectra	J68191SP
			Confirmed	Comment
			SB 5/10/2022	0.53nm ROW SPACING
			SB 5/10/2022	
G8	Chrysotile	5.00%		

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220481 SEA
 Client: PBS Engineering + Environmental

Report Number: 220481R01
 Date Received: 5/9/2022

Lab/Cor Sample No: S3
 Client Sample No: 40535.488-5/9/2022-TEM03

SampleNotes:
 Acid Soluble Weight Adjusted - No Visible Reaction
 Observed

Container Weight	13.85156 g	Hydrolysis Filter PreWeight	13.89361 g
Weight Before Ash	13.97709 g	Filter Post Hydrolysis	14.00450 g
Orig Sample Weight	0.12553 g	After Hydrolysis Weight	0.11089 g
Weight After Ash	13.96497 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.11341 g	Hydrolysis Adjusted Weight	0.11301 g
Percent Organics	9.66%	Begin Volume	20 ml
		Acid Solubles	0.32%

Grid	Analyte	Visual Estimate	Elements	Comment
G5	None Detect (Regulated Asbestos)	0.00%		
G6	None Detect (Regulated Asbestos)	0.00%		

Lab/Cor Sample No: S4
 Client Sample No: 40535.488-5/9/2022-TEM04

Container Weight	13.58913 g	Hydrolysis Filter PreWeight	13.62935 g
Weight Before Ash	13.68801 g	Filter Post Hydrolysis	13.70475 g
Orig Sample Weight	0.09888 g	After Hydrolysis Weight	0.07540 g
Weight After Ash	13.67938 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.09025 g	Hydrolysis Adjusted Weight	0.07684 g
Percent Organics	8.73%	Begin Volume	20 ml
		Acid Solubles	13.56%

Grid	Analyte	Visual Estimate	Elements	Comment
G5	None Detect (Regulated Asbestos)	0.00%		
G6	None Detect (Regulated Asbestos)	0.00%		

Reviewed by:

Shauna Bjornson
 X
 Shauna Bjornson
 Analyst

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Report

Job Number: 220512
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 220512R01
Report Date: 5/25/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Sampled:	Date Received:
220512 - S1	40535.488-5/17/2022-TEM01	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/17/2022	5/18/2022
220512 - S2	40535.488-5/17/2022-TEM02	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/17/2022	5/18/2022
220512 - S3	40535.488-5/17/2022-TEM03	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/17/2022	5/18/2022
220512 - S4	40535.488-5/17/2022-TEM04	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/17/2022	5/18/2022
220512 - S5	40535.488-5/17/2022-TEM05	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/17/2022	5/18/2022
220512 - S6	40535.488-5/17/2022-TEM06	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/17/2022	5/18/2022

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X
Shauna Bjornson
 Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220512 SEA Report Number: 220512R01
 Client: PBS Engineering + Environmental Date Received: 5/18/2022
 Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No.: S1
 Client Sample No.: 40535.488-5/17/2022-TEM01

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/25/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.49%	Acid Solubles	45.69%
Total Asbestos Percent	0.49%	Organics	5.14%
		Residue	48.68%
		Total Other Non-Asbestos Percent	99.51%

Lab/Cor Sample No.: S2
 Client Sample No.: 40535.488-5/17/2022-TEM02

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/25/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Tremolite	0.65%	Acid Solubles	38.27%
Total Asbestos Percent	0.65%	Organics	9.79%
		Residue	51.29%
		Total Other Non-Asbestos Percent	99.35%

Lab/Cor Sample No.: S3
 Client Sample No.: 40535.488-5/17/2022-TEM03

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/25/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Tremolite	0.48%	Acid Solubles	38.84%
Total Asbestos Percent	0.48%	Organics	12.94%
		Residue	47.73%
		Total Other Non-Asbestos Percent	99.52%

Lab/Cor Sample No.: S4
 Client Sample No.: 40535.488-5/17/2022-TEM04

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/25/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	1.12%	Acid Solubles	30.57%
Total Asbestos Percent	1.12%	Organics	5.55%
		Residue	62.76%
		Total Other Non-Asbestos Percent	98.88%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220512 SEA
 Client: PBS Engineering + Environmental

Report Number: 220512R01
 Date Received: 5/18/2022

Lab/Cor Sample No.: S5
 Client Sample No.: 40535.488-5/17/2022-TEM05

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/25/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.79%	Acid Solubles	30.03%
Tremolite	1.11%	Organics	6.57%
Total Asbestos Percent	1.90%	Residue	61.50%
		Total Other Non-Asbestos Percent	98.10%

Lab/Cor Sample No.: S6
 Client Sample No.: 40535.488-5/17/2022-TEM06

Analyst(s)	Analysis Date	Microscope	Magnification
SB	5/25/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Tremolite	0.76%	Acid Solubles	33.13%
Total Asbestos Percent	0.76%	Organics	5.71%
		Residue	60.39%
		Total Other Non-Asbestos Percent	99.24%

Reviewed by:

Shauna Bjornson
 X
 Shauna Bjornson
 Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220512 **SEA** **Report Number:** 220512R01
Client: PBS Engineering + Environmental **Date Received:** 5/18/2022
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1
Client Sample No: 40535.488-5/17/2022-TEM01

Container Weight	13.59199 g	Hydrolysis Filter PreWeight	13.63339 g
Weight Before Ash	13.69109 g	Filter Post Hydrolysis	13.68121 g
Orig Sample Weight	0.09910 g	After Hydrolysis Weight	0.04782 g
Weight After Ash	13.68600 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.09401 g	Hydrolysis Adjusted Weight	0.04873 g
Percent Organics	5.14%	Begin Volume	20 ml
		Acid Solubles	45.69%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Actinolite	1.00%	Mg, Si, Ca, Fe	High Si due to background particulate
			ItemType ItemNum	Confirmed Comment
			Brightfield J68318BF	
			Diffraction J68318DF	SB 5/25/2022 0.53nm ROW SPACING
			Spectra J68318SP	SB 5/25/2022

G11 Actinolite 1.00%

Lab/Cor Sample No: S2
Client Sample No: 40535.488-5/17/2022-TEM02

Container Weight	13.44240 g	Hydrolysis Filter PreWeight	13.48323 g
Weight Before Ash	13.56885 g	Filter Post Hydrolysis	13.54768 g
Orig Sample Weight	0.12645 g	After Hydrolysis Weight	0.06445 g
Weight After Ash	13.55647 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.11407 g	Hydrolysis Adjusted Weight	0.06568 g
Percent Organics	9.79%	Begin Volume	20 ml
		Acid Solubles	38.27%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Tremolite	1.50%	Mg, Si, Ca, Fe	High Si due to background particulate
			ItemType ItemNum	Confirmed Comment
			Brightfield J68319BF	
			Diffraction J68319DF	SB 5/25/2022 0.53nm ROW SPACING
			Spectra J68319SP	SB 5/25/2022

G11 Tremolite 1.00%

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220512 SEA
 Client: PBS Engineering + Environmental

Report Number: 220512R01
 Date Received: 5/18/2022

Lab/Cor Sample No: S3
 Client Sample No: 40535.488-5/17/2022-TEM03

Container Weight	13.59614 g	Hydrolysis Filter PreWeight	13.63920 g
Weight Before Ash	13.67733 g	Filter Post Hydrolysis	13.67761 g
Orig Sample Weight	0.08119 g	After Hydrolysis Weight	0.03841 g
Weight After Ash	13.66682 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.07068 g	Hydrolysis Adjusted Weight	0.03914 g
Percent Organics	12.94%	Begin Volume	20 ml
		Acid Solubles	38.84%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Tremolite	1.00%	Mg, Si, Ca, Fe	High Si due to background particulate
			ItemType ItemNum	Confirmed Comment
			Brightfield J68317BF	
			Diffraction J68317DF	SB 5/25/2022 0.53nm ROW SPACING
			Spectra J68317SP	SB 5/25/2022
G11	Tremolite	1.00%		

Lab/Cor Sample No: S4
 Client Sample No: 40535.488-5/17/2022-TEM04

Container Weight	13.83294 g	Hydrolysis Filter PreWeight	13.87440 g
Weight Before Ash	13.97242 g	Filter Post Hydrolysis	13.96183 g
Orig Sample Weight	0.13948 g	After Hydrolysis Weight	0.08743 g
Weight After Ash	13.96468 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.13174 g	Hydrolysis Adjusted Weight	0.08910 g
Percent Organics	5.55%	Begin Volume	20 ml
		Acid Solubles	30.57%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Actinolite	1.50%	Mg, Si, Ca, Fe	High Si due to background particulate
			ItemType ItemNum	Confirmed Comment
			Brightfield J68321BF	
			Diffraction J68321DF	SB 5/25/2022 0.53nm ROW SPACING
			Spectra J68321SP	SB 5/25/2022
G11	Actinolite	2.00%		

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220512 SEA
 Client: PBS Engineering + Environmental

Report Number: 220512R01
 Date Received: 5/18/2022

Lab/Cor Sample No: S5
 Client Sample No: 40535.488-5/17/2022-TEM05

Container Weight	13.71042 g	Hydrolysis Filter PreWeight	13.75216 g
Weight Before Ash	13.87712 g	Filter Post Hydrolysis	13.85587 g
Orig Sample Weight	0.16670 g	After Hydrolysis Weight	0.10371 g
Weight After Ash	13.86617 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.15575 g	Hydrolysis Adjusted Weight	0.10569 g
Percent Organics	6.57%	Begin Volume	20 ml
		Acid Solubles	30.03%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Tremolite	2.00%	Mg, Si, Ca, Fe	High Si due to background particulate
			ItemType ItemNum	Confirmed Comment
			Brightfield J68323BF	
			Diffraction J68323DF	SB 5/25/2022
			Spectra J68323SP	SB 5/25/2022
G10	Actinolite	1.50%	Mg, Si, Ca, Fe	High Si due to background particulate
			ItemType ItemNum	Confirmed Comment
			Brightfield J68324BF	
			Diffraction J68324DF	SB 5/25/2022 0.53nm ROW SPACING
			Spectra J68324SP	SB 5/25/2022
G11	Tremolite	1.50%		
G11	Actinolite	1.00%		

Lab/Cor Sample No: S6
 Client Sample No: 40535.488-5/17/2022-TEM06

Container Weight	13.73544 g	Hydrolysis Filter PreWeight	13.77712 g
Weight Before Ash	13.84442 g	Filter Post Hydrolysis	13.84252 g
Orig Sample Weight	0.10898 g	After Hydrolysis Weight	0.06540 g
Weight After Ash	13.83820 g	Hydrolysis Aliquot	19.625 ml
Particulate After Ash	0.10276 g	Hydrolysis Adjusted Weight	0.06665 g
Percent Organics	5.71%	Begin Volume	20 ml
		Acid Solubles	33.13%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Tremolite	1.00%	Mg, Si, Ca, Fe	High Si due to background particulate
			ItemType ItemNum	Confirmed Comment
			Brightfield J68325BF	
			Diffraction J68325DF	SB 5/25/2022 0.53nm ROW SPACING
			Spectra J68325SP	SB 5/25/2022
G11	Tremolite	1.50%		

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Report

Job Number: 220538
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
 Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 220538R01
Report Date: 6/1/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Sampled:	Date Received:
220538 - S1	40535.488-5/26/22-TEM01	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/26/2022	5/26/2022
220538 - S2	40535.488-5/26/22-TEM02	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		5/26/2022	5/26/2022

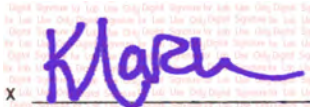
ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X
Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220538 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220538R01
Date Received: 5/26/2022

Lab/Cor Sample No.: S1
Client Sample No.: 40535.488-5/26/22-TEM01

Analyst(s)	Analysis Date	Microscope	Magnification
SB	6/1/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	0.11%	Acid Solubles	1.78%
Tremolite	0.04%	Organics	6.87%
Total Asbestos Percent	0.15%	Residue	91.20%
		Total Other Non-Asbestos Percent	99.85%

Lab/Cor Sample No.: S2
Client Sample No.: 40535.488-5/26/22-TEM02

Analyst(s)	Analysis Date	Microscope	Magnification
SB	6/1/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Chrysotile	0.01%	Acid Solubles	0.85%
Tremolite	0.14%	Organics	7.65%
Total Asbestos Percent	0.15%	Residue	91.35%
		Total Other Non-Asbestos Percent	99.85%

Reviewed by:

Kate March
 Kate March
 Quality Control Officer

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220538 **SEA** **Report Number:** 220538R01
Client: PBS Engineering + Environmental **Date Received:** 5/26/2022
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1
Client Sample No: 40535.488-5/26/22-TEM01

Container Weight	13.56202 g	Hydrolysis Filter PreWeight	13.60341 g
Weight Before Ash	13.73929 g	Filter Post Hydrolysis	13.76365 g
Orig Sample Weight	0.17727 g	After Hydrolysis Weight	0.16024 g
Weight After Ash	13.72712 g	Hydrolysis Aliquot	19.79 ml
Particulate After Ash	0.16510 g	Hydrolysis Adjusted Weight	0.16194 g
Percent Organics	6.87%	Begin Volume	20 ml
		Acid Solubles	1.78%

Grid	Analyte	Visual Estimate	Elements	Comment
G7	Chrysotile	0.15%	Mg, Si	
			ItemType	ItemNum
			Brightfield	J68422BF
			Diffraction	J68422DF
			Spectra	J68422SP
G7	Tremolite	0.05%	Mg, Si, Ca, Fe	
			ItemType	ItemNum
			Brightfield	J68423BF
			Diffraction	J68423DF
			Spectra	J68423SP
G8	Chrysotile	0.10%		
G8	Tremolite	0.03%		

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220538 SEA
 Client: PBS Engineering + Environmental

Report Number: 220538R01
 Date Received: 5/26/2022

Lab/Cor Sample No: S2
 Client Sample No: 40535.488-5/26/22-TEM02

Container Weight	13.46320 g	Hydrolysis Filter PreWeight	13.50304 g
Weight Before Ash	13.60470 g	Filter Post Hydrolysis	13.63079 g
Orig Sample Weight	0.14150 g	After Hydrolysis Weight	0.12775 g
Weight After Ash	13.59387 g	Hydrolysis Aliquot	19.735 ml
Particulate After Ash	0.13067 g	Hydrolysis Adjusted Weight	0.12947 g
Percent Organics	7.65%	Begin Volume	20 ml
		Acid Solubles	0.85%

Grid	Analyte	Visual Estimate	Elements	Comment		
G7	Tremolite	0.10%	Mg, Si, Ca, Fe			
			ItemType	ItemNum	Confirmed	Comment
			Brightfield	J68424BF		
			Diffraction	J68424DF	SB 6/1/2022	0.53nm ROW SPACING
G7	Chrysotile	0.01%	Mg, Si			
			ItemType	ItemNum	Confirmed	Comment
			Brightfield	J68425BF		
			Diffraction	J68425DF	SB 6/1/2022	0.53nm ROW SPACING
G8	Tremolite	0.20%				
	Chrysotile	0.01%				

Reviewed by:

Kate March
 X
 Kate March
 Quality Control Officer

ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Report

Job Number: 220613
Client: PBS Engineering + Environmental
Address: 214 E Galer Street
 Seattle, WA 98102
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488
PO Number:
Sub Project:
Reference No.:

Report Number: 220613R01
Report Date: 6/27/2022

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Sampled:	Date Received:
220613 - S1	40535.488-6/17/22-TEM01	ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified)		6/17/2022	6/21/2022

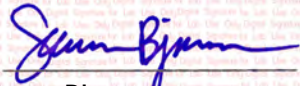
ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) Preparation and analysis of the above sample(s) was conducted in accordance with the ELAP Item 198.4 for the identification of regulated asbestiform minerals in Non-Friable Organically Bound Bulk Samples. Briefly, each sample was taken from at least three randomly selected areas. The sample was then weighed (Original Sample Weight) on an analytical balance (0.01 milligram sensitivity), ashed in a muffle furnace to remove the organic component, and weighed (Particulate After Ash). After a brief hydrolysis period in concentrated hydrochloric acid, the suspension was immediately diluted in 20 ml of laboratory reagent water. Appropriate aliquots were removed from the suspension and filtered onto mixed cellulose ester filters for TEM analysis. The remaining suspension was then filtered onto pre weighed 0.4µm polycarbonate (PC) filter and re-weighed upon completion of drying (Hydrolysis Adjusted Weight). Upon confirmation of the principal mineral type by diffraction and EDS chemistry, a visual estimate of the regulated asbestiform minerals, relative to the non-asbestos, was determined. Fibers, with an aspect ratio of at least 3:1 and with the proper diffraction/ chemistry, were identified as regulated asbestiform mineral types. 'Trace' is reported for those samples whose percent asbestos is below 1.0%. 'Trace' analytes reported with a Weight Percent of 0.01% are reported at the Limit of Detection.

This test report relates only to the items tested in this report. Samples such as soils, sediments or raw ores may require further mineralogical analysis to differentiate mineral species. Interpretation of these results is the sole responsibility of the client. Results are subject to the variation in the layers of the sample, the accuracy of the balance, the visual estimate on the microscope as well as other variations within the procedure.

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

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

Sincerely,


 X _____
 Shauna Bjornson
 Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220613 **SEA** **Report Number:** 220613R01
Client: PBS Engineering + Environmental **Date Received:** 6/21/2022
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No.: S1
Client Sample No.: 40535.488-6/17/22-TEM01

Analyst(s)	Analysis Date	Microscope	Magnification
SB	6/27/2022	JEOL-Sr 1200	20000

Analyte Description	Weight Percent	Gravimetric Reduction	Weight Percent
Actinolite	0.06%	Acid Solubles	40.83%
Total Asbestos Percent	0.06%	Organics	8.22%
		Residue	50.88%
		Total Other Non-Asbestos Percent	99.94%

Reviewed by:

Shauna Bjornson
 X _____
Shauna Bjornson
 Analyst

**ELAP Item 198.4 - TEM - Bulk Semi-Quantitative (Modified) -
 Final Report**

Job Number: 220613 **SEA** **Report Number:** 220613R01
Client: PBS Engineering + Environmental **Date Received:** 6/21/2022
Project Name: Pierce College Olympic South Abatement and Repairs

Lab/Cor Sample No: S1
Client Sample No: 40535.488-6/17/22-TEM01

Container Weight	13.71572 g	Hydrolysis Filter PreWeight	13.75562 g
Weight Before Ash	13.78140 g	Filter Post Hydrolysis	13.78858 g
Orig Sample Weight	0.06568 g	After Hydrolysis Weight	0.03296 g
Weight After Ash	13.77600 g	Hydrolysis Aliquot	19.7 ml
Particulate After Ash	0.06028 g	Hydrolysis Adjusted Weight	0.03346 g
Percent Organics	8.22%	Begin Volume	20 ml
		Acid Solubles	40.83%

Grid	Analyte	Visual Estimate	Elements	Comment
G10	Actinolite	0.15%	Mg, Al, Si, Ca, Fe	
			ItemType	Confirmed
			Brightfield	ItemNum
			Diffraction	J68690BF
			Spectra	J68690DF
				0.53nm ROW SPACING
				SB 6/27/2022
G11	Actinolite	0.10%		

Reviewed by:

Shauna Bjornson
 X **Shauna Bjornson**
 Analyst

APPENDIX E

Asbestos Survey Drawing

Post Abatement Asbestos Survey Plan

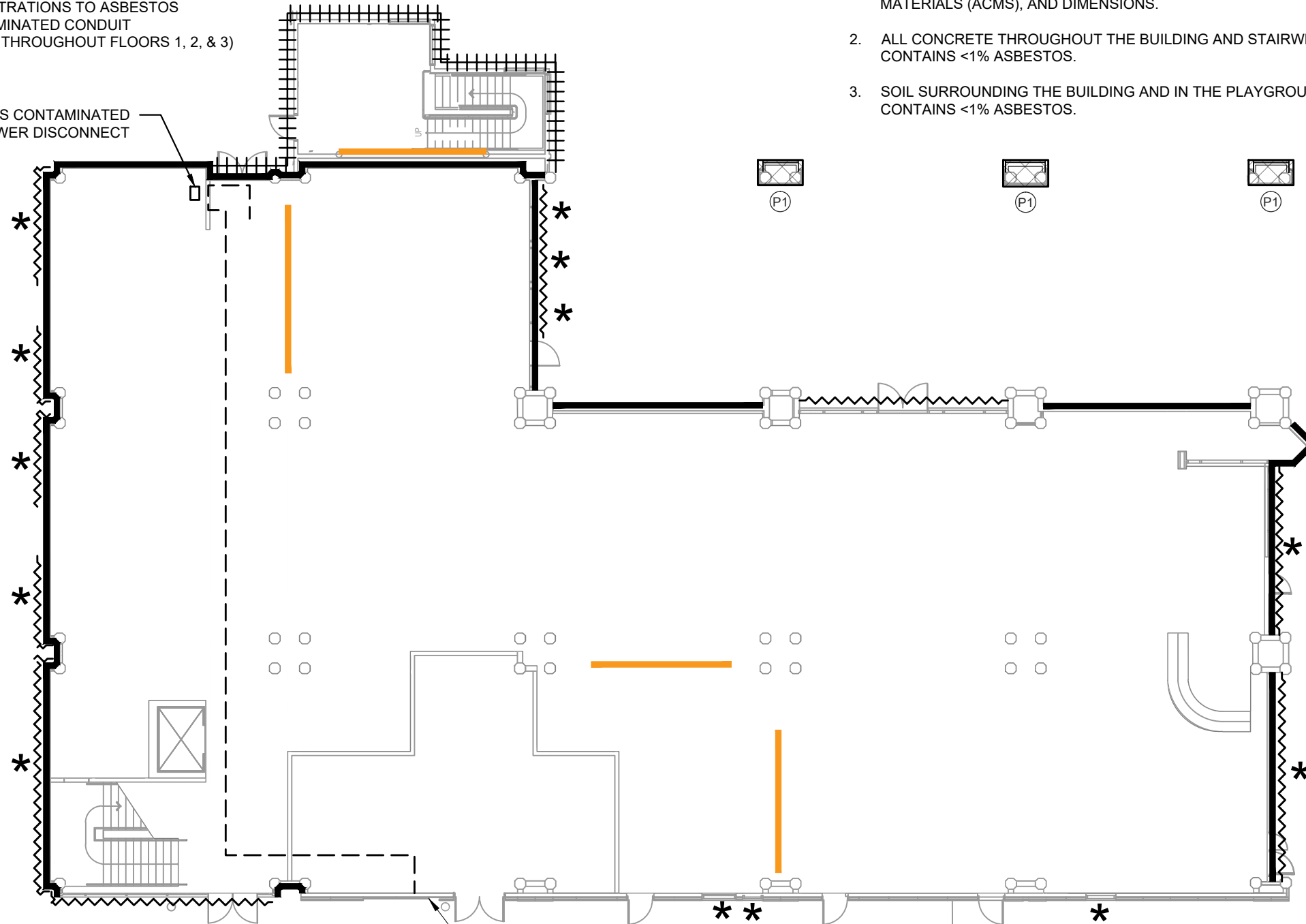
File name: L:\Projects\40500\40535 WADOGA\40535.400-499\40535.488 Olympic South Abatement & Repairs\CAD\40535.488_SVY1.dwg Layout Tab: SVY1.5 - ASBESTOS SURVEY PLAN User: Katie Breyman CAD Plot Date/Time: 7/20/2022 4:08:21 PM



REFERENCE IMAGES:
 SEALED PENETRATIONS TO ASBESTOS CONTAMINATED CONDUIT
 (NOT SHOWN, EXISTS THROUGHOUT FLOORS 1, 2, & 3)

ASBESTOS CONTAMINATED SUB-GRADE ELECTRICAL VAULT AND ASSOCIATED CONDUIT UNDER OLYMPIC SOUTH

ASBESTOS CONTAMINATED EMERGENCY POWER DISCONNECT



ASBESTOS CONTAMINATED SUB-GRADE ELECTRICAL VAULTS AND ASSOCIATED SUBGRADE CONDUIT

ASBESTOS CONTAMINATED POWER SHUT-OFF PANEL AND ASSOCIATED CONDUIT

ASBESTOS CONTAMINATED TRANSFORMER

1 FIRST FLOOR
 SCALE: 1" = 16'-0"
 PROJECT NORTH

GENERAL NOTES

1. THE DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY. GENERAL LOCATIONS OF ASBESTOS MATERIALS ARE DEPICTED DIAGRAMMATICALLY ON THE DRAWINGS. THE REMAINING MATERIAL LOCATIONS ARE DESCRIBED TEXTUALLY ON THESE DRAWINGS. CONTRACTOR TO VERIFY ALL ITEMS SHOWN, LOCATIONS AND QUANTITIES OF ASBESTOS-CONTAINING MATERIALS (ACMS), AND DIMENSIONS.
2. ALL CONCRETE THROUGHOUT THE BUILDING AND STAIRWELL CONTAINS <1% ASBESTOS.
3. SOIL SURROUNDING THE BUILDING AND IN THE PLAYGROUND CONTAINS <1% ASBESTOS.

LEGEND

- ASBESTOS-CONTAINING MARBLE CRETE
- ASBESTOS-CONTAINING WINDOW CAULK
- <1% ASBESTOS-CONTAINING PLASTER STAIRWELL
- ASBESTOS CONTAMINATED STRUCTURAL BRACE FRAMING
- ASBESTOS CONTAMINATED COLUMN CAVITIES
- PHOTO NUMBER & LOCATION
- ASBESTOS CONTAMINATED CONDUIT ADHESIVE BETWEEN ROUGH OPENING AND FRAME



P1: ASBESTOS CONTAMINATED EXTERIOR COLUMN CAVITY

PBS Engineering and Environmental Inc.
 214 East Galer Street, Ste 300
 Seattle, WA 98102
 206.233.9639
 pbsusa.com



ASBESTOS SURVEY PLAN
PERCE COLLEGE - OLYMPIC SOUTH ABATEMENT & REPAIRS
 9401 FARWEST DRIVE SOUTHWEST, LAKEWOOD, WASHINGTON

REVISED 7/20/2022


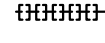








PROJECT	40535.488
DATE	JUL 2022
SHEET ID	SVY1.5

Full Size Sheet Format Is 11x17; If Printed Size is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

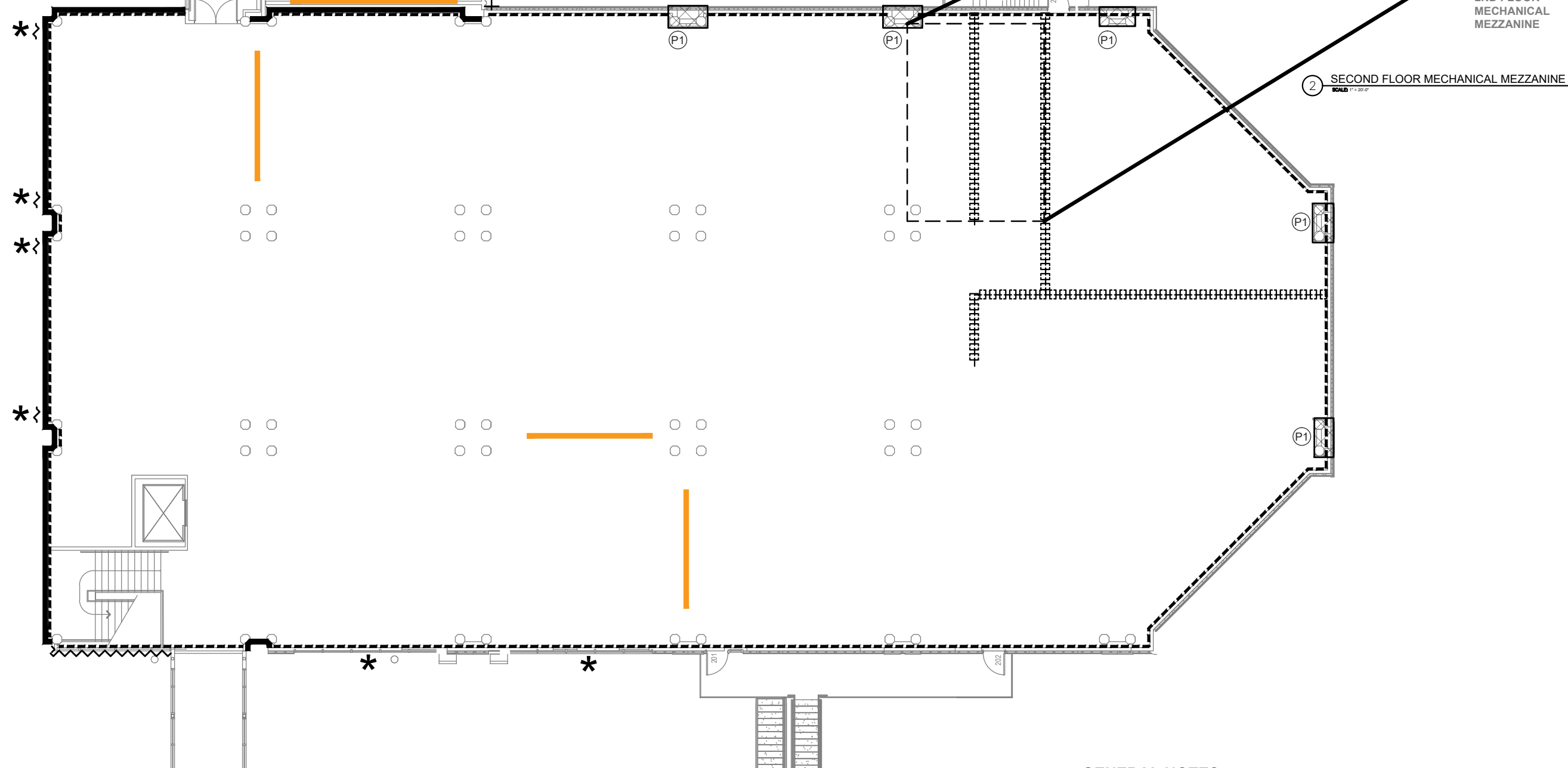


SKYBRIDGE TO
CASCADE NORTH
(SEE HM5.0)

LEGEND

-  ASBESTOS-CONTAINING MARBLE CRETE
-  ASBESTOS-CONTAINING CONCRETE MASONRY UNIT (CMU)
-  <1% ASBESTOS-CONTAINING PLASTER STAIRWELL
-  ASBESTOS CONTAMINATED STRUCTURAL BRACE FRAMING
-  ASBESTOS CONTAMINATED COLUMN CAVITIES
-  ASBESTOS-CONTAINING ADHESIVE BETWEEN ROUGH OPENING AND FRAME
-  ASBESTOS-CONTAINING PLASTER (SKYBRIDGE UNDER DECK TO CASCADE)
-  ASBESTOS-CONTAINING WINDOW CAULK
-  ASBESTOS-CONTAINING BLACK MASTIC UNDER PERIMETER SILL PLATE
-  PHOTO NUMBER & LOCATION

P1: ASBESTOS CONTAMINATED EXTERIOR COLUMN CAVITY



1 SECOND FLOOR
SCALE: 1" = 16'-0"
PROJECT NORTH

GENERAL NOTES

1. THE DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY. GENERAL LOCATIONS OF ASBESTOS MATERIALS ARE DEPICTED DIAGRAMMATICALLY ON THE DRAWINGS. THE REMAINING MATERIAL LOCATIONS ARE DESCRIBED TEXTUALLY ON THESE DRAWINGS. CONTRACTOR TO VERIFY ALL ITEMS SHOWN, LOCATIONS AND QUANTITIES OF ASBESTOS-CONTAINING MATERIALS (ACMS), AND DIMENSIONS.
2. ALL CONCRETE THROUGHOUT THE BUILDING AND STAIRWELL CONTAINS <1% ASBESTOS.

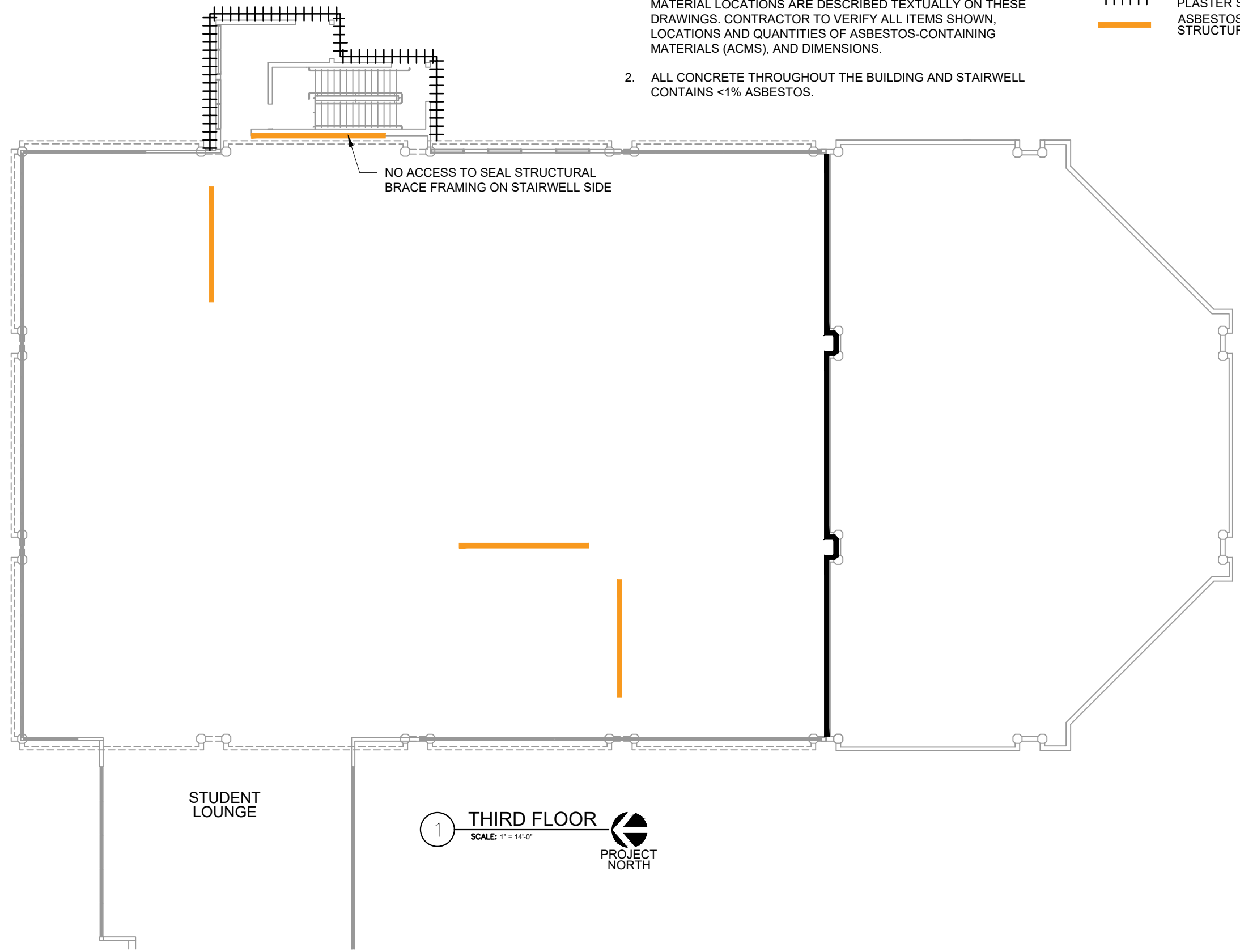


ASBESTOS SURVEY PLAN
PERCE COLLEGE - OLYMPIC SOUTH ABATEMENT & REPAIRS
9401 FARWEST DRIVE SOUTHWEST, LAKEWOOD, WASHINGTON

PROJECT	40535.488
DATE	JUL 2022
SHEET ID	

SVY2.5




REVISED 7/20/2022



GENERAL NOTES

1. THE DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY. GENERAL LOCATIONS OF ASBESTOS MATERIALS ARE DEPICTED DIAGRAMMATICALLY ON THE DRAWINGS. THE REMAINING MATERIAL LOCATIONS ARE DESCRIBED TEXTUALLY ON THESE DRAWINGS. CONTRACTOR TO VERIFY ALL ITEMS SHOWN, LOCATIONS AND QUANTITIES OF ASBESTOS-CONTAINING MATERIALS (ACMS), AND DIMENSIONS.
2. ALL CONCRETE THROUGHOUT THE BUILDING AND STAIRWELL CONTAINS <1% ASBESTOS.

LEGEND

-  ASBESTOS-CONTAINING MARBLE CRETE
-  <1% ASBESTOS-CONTAINING PLASTER STAIRWELL
-  ASBESTOS CONTAMINATED STRUCTURAL BRACE FRAMING

1 THIRD FLOOR
SCALE: 1" = 14'-0"
PROJECT NORTH

STUDENT LOUNGE

NO ACCESS TO SEAL STRUCTURAL BRACE FRAMING ON STAIRWELL SIDE

REVISED 7/19/2022

ASBESTOS SURVEY PLAN
PERCE COLLEGE - OLYMPIC SOUTH ABATEMENT & REPAIRS
9401 FARWEST DRIVE SOUTHWEST, LAKEWOOD, WASHINGTON

PROJECT	40535.488
DATE	JUL 2022
SHEET ID	SVY3.5



PBS Engineering and Environmental Inc.
214 East Galer Street, Ste 300
Seattle, WA 98102
206.233.9639
pbsusa.com

APPENDIX F

Construction Phase CARB 435 Bulk Sampling Information

CARB Soil Sample Inventory

CARB Soil Laboratory Data Sheets

CARB Soil Chain of Custody Documentation

CARB 435 SAMPLE INVENTORY

<u>PBS Sample #</u>	<u>Material</u>	<u>Sample Location</u>	<u>Weight percent</u>	<u>Structure Count</u>	<u>Lab</u>
40535.488-CARB01	Soil	East Elevation ~20ft from center column	0.0156%	4 Chrysotile 7 Actinolite	Lab Cor
40535.488-CARB02	Soil	South Elevation northeast of Robin's nest	0.690%	4 Chrysotile 7 Actinolite	Lab Cor
40535.488-CARB03	Soil	Southwest Elevation lawn area near tires	0.278%	3 Actinolite	Lab Cor
40535.488-CARB04	Soil	West Elevation east side of mound	0.00351%	1 Chrysotile 2 Actinolite	Lab Cor
40535.488-CARB05	Soil	Southwest elevation fence near pole seating	0.0661%	6 Actinolite	Lab Cor
40535.488-CARB06	Soil	West Elevation north playground fence	0.0464%	1 Libby-Other Amph 7 Actinolite	Lab Cor
40535.488-CARB09	Soil	East Elevation ~20ft from center column depth 6-12"	0.0975%	12 Actinolite	Lab Cor
40535.488-CARB10	Soil	South Elevation northeast of Robin's nest depth 6-12"	0.0138%	7 Actinolite	Lab Cor
40535.488-CARB11	Soil	Southwest Elevation lawn area near tires depth 6-12"	0.0396%	6 Actinolite	Lab Cor
40535.488-CARB12	Soil	West Elevation east side of mound depth 6-12"	0.523%	4 Actinolite 3 Anthophyllite 1 Tremolite	Lab Cor
40535.488-CARB13	Soil	Southwest elevation fence near pole seating depth 6-12"	0.202%	8 Actinolite 1 Anthophyllite 1 Tremolite	Lab Cor
40535.488-CARB14	Soil	West Elevation north playground fence depth 6-12"	0.00506%	11 Actinolite	Lab Cor

CARB 435 - TEM Final Report

Job Number: 220247

Report Number: 220247R02

Client: PBS Engineering + Environmental

Report Date: 3/22/2022

**Address: 214 E Galer Street
Seattle, WA 98102**

Project Name: Pierce College Olympic South Abatement and Repairs

Project Num: 40535.488

PO Number:

Sub Project:

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Received:
220247 - S1	40535.488-CARB01	CARB 435 - TEM		3/10/2022
220247 - S2	40535.488-CARB02	CARB 435 - TEM		3/10/2022
220247 - S3	40535.488-CARB03	CARB 435 - TEM		3/10/2022
220247 - S4	40535.488-CARB04	CARB 435 - TEM		3/10/2022
220247 - S5	40535.488-CARB05	CARB 435 - TEM		3/10/2022
220247 - S6	40535.488-CARB06	CARB 435 - TEM		3/10/2022

CARB 435 - TEM Final Report

Job Number: 220247

Client: PBS Engineering + Environmental

Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220247R02

Report Date: 3/22/2022

CARB 435 - TEM - Samples were processed and analyzed following the California Air Resources Board (CARB) method 435 using transmission electron microscopy (TEM) as an alternative to polarized light microscopy (PLM). All sample preparation was conducted under a negative air ventilation hood with a HEPA filter. Samples were weighed to the nearest 0.2 g prior to and after the every step of the preparation process.

To homogenize the sample particle size to an even sizing, samples were subcontracted to a lab that will grind samples using the CARB 435 method. The samples were then further treated to eliminate interferences may have undergone additional ashing and/or hydrolyzation steps to obtain a gravimetric reduction ratio (GRR - less than 1.0). A reported GRR of 1 indicates that these additional steps were not performed. After collection, the ground sample was weighed. A portion of the material (about 0.2 grams) was suspended in particle-free water and sonicated for three minutes, handshaken for another 30 seconds, and allowed to settle for one minute. A range of aliquots were pipetted into a vacuum filtration system utilizing 25mm MCE filters.

Briefly, the filters were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-dimethylformamide followed by an acetone bath until cleared of filter debris..

The grid preparations were examined in the TEM at low magnification (about 500-1,000x) to determine the preparation showing optimal particulate loading. Each grid opening was analyzed between 1,000 – 20,000x screen magnification.

Samples were analyzed evenly over 2 grids or until a sensitivity of 0.1% was achieved with a minimum of 4 grid openings analyzed. Initial scanning of each grid was done at the lowest magnification to detect larger fibrous structures that contribute the greatest in weight percent value. A representative number of larger structures to number of available grid openings was determined and used to randomly choose available grid openings for higher magnification analysis.

Structures were identified and classified according to ISO counting rules. In the event that the density of asbestos structures created too many overlapping structures to effectively classify each primary structure individually, a less-dense aliquot was chosen.

TEM analysis was performed using the JEOL 1200EX transmission electron microscope (TEM), or the Hitachi 7000FA TEM. Both microscopes are equipped with Thermo Fisher X ray Spectral analyzers, with a Silicon Drift Detector. The microscopes are also equipped with digital CCD cameras to capture diffraction patterns and brightfield images. An accelerating voltage of 100 KV was applied. Analyzable fibrous structures were greater than or equal to a 3:1 aspect ratio.

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

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

Reviewed by:


X _____

Kate March
Quality Control Officer

CARB 435 - TEM - Final Report

Job Number: 220247 SEA
 Client: PBS Engineering + Environmental
 Project Name: Pierce College Olympic South Abatement and Repairs
 Project No.: 40535.488

Report Number: 220247R02
 Date Received: 3/10/2022

Lab/Cor Sample No. : S1 Starting Weight (g) : 0.52
 Client Sample No. : 40535.488-CARB01 Lab Filter Area (mm2) : 289.38
 GRR : 0.94 Grid Openings Analyzed : 4
 Dilution : 0.00125 Average Grid Opening Area (mm2) : 0.0106
 Dilution Factor : 1 Area Analyzed (mm2) : 0.0424
 Analytical Sens. (Weight Percent) : 5.96E-07
 Analytical Sens. (struc/g) : 9.91E+06

Analyst(s) Analysis Date Microscope Magnification
 SB 3/21/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	1.09E+08	11	
Total Asbestos Structures	1.56E-02	1.09E+08		11
Total Chrysotile Structures	3.46E-04	3.97E+07		4
Total Libby-Other Amph Structures	NA*	< 9912700.865		0
Total Actinolite Structures	1.52E-02	6.94E+07		7

Lab/Cor Sample No. : S2 Starting Weight (g) : 0.29
 Client Sample No. : 40535.488-CARB02 Lab Filter Area (mm2) : 289.38
 GRR : 0.974 Grid Openings Analyzed : 4
 Dilution : 0.00125 Average Grid Opening Area (mm2) : 0.0106
 Dilution Factor : 1 Area Analyzed (mm2) : 0.0424
 Analytical Sens. (Weight Percent) : 1.11E-06
 Analytical Sens. (struc/g) : 1.85E+07

Analyst(s) Analysis Date Microscope Magnification
 SB 3/21/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	2.04E+08	11	
Total Asbestos Structures	6.90E-01	2.04E+08		11
Total Chrysotile Structures	6.64E-04	7.42E+07		4
Total Libby-Other Amph Structures	NA*	< 18542031.31		0
Total Actinolite Structures	6.89E-01	1.30E+08		7

* NA - weight percent is only calculated using total structures, counting categories that are counted using primary structures are not calculated.

CARB 435 - TEM - Final Report

Job Number: 220247 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488

Report Number: 220247R02
Date Received: 3/10/2022

Lab/Cor Sample No. : S3 **Starting Weight (g) :** 0.26
Client Sample No. : 40535.488-CARB03 **Lab Filter Area (mm2) :** 289.38
GRR : 0.922 **Grid Openings Analyzed :** 4
Dilution : 0.00125 **Average Grid Opening Area (mm2) :** 0.0106
Dilution Factor : 1 **Area Analyzed (mm2) :** 0.0424
Analytical Sens. (Weight Percent) : 1.15E-06
Analytical Sens. (struc/g) : 1.91E+07

Analyst(s) **Analysis Date** **Microscope** **Magnification**
 SB 3/21/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	5.74E+07	3	
Total Asbestos Structures	2.78E-01	5.74E+07		3
Total Chrysotile Structures	NA*	< 19124415.91		0
Total Libby-Other Amph Structures	NA*	< 19124415.91		0
Total Actinolite Structures	2.78E-01	5.74E+07		3

Lab/Cor Sample No. : S4 **Starting Weight (g) :** 0.47
Client Sample No. : 40535.488-CARB04 **Lab Filter Area (mm2) :** 289.38
GRR : 0.967 **Grid Openings Analyzed :** 4
Dilution : 0.00125 **Average Grid Opening Area (mm2) :** 0.0106
Dilution Factor : 1 **Area Analyzed (mm2) :** 0.0424
Analytical Sens. (Weight Percent) : 6.76E-07
Analytical Sens. (struc/g) : 1.12E+07

Analyst(s) **Analysis Date** **Microscope** **Magnification**
 SB 3/21/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	3.37E+07	3	
Total Asbestos Structures	3.51E-03	3.37E+07		3
Total Chrysotile Structures	2.25E-05	1.12E+07		1
Total Libby-Other Amph Structures	NA*	< 11243228.279		0
Total Actinolite Structures	3.49E-03	2.25E+07		2

* NA - weight percent is only calculated using total structures, counting categories that are counted using primary structures are not calculated.

CARB 435 - TEM - Final Report

Job Number: 220247 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488

Report Number: 220247R02
Date Received: 3/10/2022

Lab/Cor Sample No.: S5 **Starting Weight (g):** 0.43
Client Sample No.: 40535.488-CARB05 **Lab Filter Area (mm²):** 289.38
GRR: 0.93 **Grid Openings Analyzed:** 4
Dilution: 0.00125 **Average Grid Opening Area (mm²):** 0.0106
Dilution Factor: 1 **Area Analyzed (mm²):** 0.0424
Analytical Sens. (Weight Percent): 7.14E-07
Analytical Sens. (struc/g): 1.19E+07

Analyst(s) **Analysis Date** **Microscope** **Magnification**
 SB 3/21/2022 JEOL-Sr 1200 20000

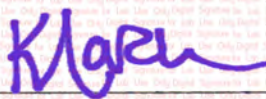
Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	7.13E+07	6	
Total Asbestos Structures	6.61E-02	7.13E+07		6
Total Chrysotile Structures	NA*	< 11891524.789		0
Total Libby-Other Amph Structures	NA*	< 11891524.789		0
Total Actinolite Structures	6.61E-02	7.13E+07		6

Lab/Cor Sample No.: S6 **Starting Weight (g):** 0.62
Client Sample No.: 40535.488-CARB06 **Lab Filter Area (mm²):** 289.38
GRR: 0.934 **Grid Openings Analyzed:** 4
Dilution: 0.00125 **Average Grid Opening Area (mm²):** 0.0106
Dilution Factor: 1 **Area Analyzed (mm²):** 0.0424
Analytical Sens. (Weight Percent): 4.97E-07
Analytical Sens. (struc/g): 8.27E+06

Analyst(s) **Analysis Date** **Microscope** **Magnification**
 SB 3/21/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	5.79E+07	7	
Total Asbestos Structures	4.64E-02	5.79E+07		7
Total Chrysotile Structures	NA*	< 8270178.227		0
Total Libby-Other Amph Structures	2.34E-04	8.27E+06		1
Total Actinolite Structures	4.64E-02	5.79E+07		7

Reviewed by:


 X
Kate March
 Quality Control Officer

* NA - weight percent is only calculated using total structures, counting categories that are counted using primary structures are not calculated.

**CARB 435 - TEM Raw Data -
 Final Report**

Job Number: 220247 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220247R02

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 3/10/2022

Project No.: 40535.488

Lab/Cor Sample No: S1

Client Sample No: 40535.488-CARB01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	G34	ADQ	1	1	B	0.75	0.25	3	Actinolite	Mg, Si, Ca, Fe		TotActS
							ItemType	ItemNum		Confirmed		Comment	
							Brightfield	J67869BF					
							Diffraction	J67869DF		SB	3/21/2022	0.53nm ROW SPACING	
							Spectra	J67869SP		SB	3/21/2022		
G4	1	G34	AM	2	2	MC 7-0	1.5	0.2	7.5	Actinolite		7/0	TotActS
G4	1	G34	CQ	3	3	F	2.5	0.15	16.7	Chrysotile	Mg, Si		TChrysStr
							ItemType	ItemNum		Confirmed		Comment	
							Brightfield	J67870BF					
							Spectra	J67870SP		SB	3/21/2022		
G4	2	G42	AM	4	4	MC 11-0	1	0.25	4	Actinolite		11/0	TotActS
G4	2	G42	AM	5	5	MC 3-0	4	0.4	10	Actinolite		3/0	TotActS
G4	2	G42	CQ	6	6	B	2.25	0.15	15	Chrysotile	Mg, Si		TChrysStr
G5	3	E42	AQ	7	7	F	2	0.5	4	Actinolite	Mg, Si, Ca, Fe		TotActS
G5	3	E42	AM	8	8	MC 3-0	2	0.45	4.4	Actinolite		3/0	TotActS
G5	3	E42	CMQ	9	9	B	1	0.15	6.7	Chrysotile			TChrysStr
G5	3	E42	CM	10	10	MC 3-0	1.5	0.1	15	Chrysotile		3/0	TChrysStr
G5	4	F41	AMQ	11	11	MC 4-0	1	0.2	5	Actinolite		4/0	TotActS

**CARB 435 - TEM Raw Data -
Final Report**

Job Number: 220247 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220247R02

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 3/10/2022

Lab/Cor Sample No: S2

Client Sample No: 40535.488-CARB02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G4	1	F32	CMQ	1	1	F	2.25	0.1	22.5	Chrysotile	Mg, Si			TChrysStr
						ItemType						Confirmed		Comment
						Brightfield								
						Spectra						SB 3/21/2022		
							J67871BF							
							J67871SP							
G4	1	F32	ADQ	2	2	F	1	0.25	4	Actinolite	Mg, Si, Ca, Fe			TotActS
						ItemType						Confirmed		Comment
						Brightfield								
						Diffraction						SB 3/21/2022		0.53nm ROW SPACING
						Spectra						SB 3/21/2022		
							J67872BF							
							J67872DF							
							J67872SP							
G4	2	G31	AMQ	1	1	MC 2-0	2	0.4	5	Actinolite				TotActS
G4	2	G31	CDQ	2	2	F	8.5	0.1	85	Chrysotile	Mg, Si			TChrysStr
						ItemType						Confirmed		Comment
						Brightfield								
						Diffraction						SB 3/21/2022		0.53nm ROW SPACING
						Spectra						SB 3/21/2022		
							J67873BF							
							J67874DF							
							J67874SP							
G5	3	E41	AM	3	3	F	6	1	6	Actinolite				TotActS
G5	3	E41	AMQ	4	4	F	11	3	3.7	Actinolite				TotActS
G5	3	E41	AM	5	5	MC 4-0	2	0.25	8	Actinolite		4/0		TotActS
G5	3	E41	CM	6	6	MC 2-0	0.75	0.1	7.5	Chrysotile		2/0		TChrysStr
G5	4	E33	AMQ	7	7	F	8.5	1.25	6.8	Actinolite				TotActS
						ItemType						Confirmed		Comment
						Diffraction						SB 3/21/2022		0.53nm ROW SPACING
							J67875DF							
G5	4	E33	AM	8	8	MC 3-0	2	0.25	8	Actinolite				TotActS
G5	4	E33	CM	9	9	B	2.5	0.15	16.7	Chrysotile				TChrysStr

Lab/Cor Sample No: S3

Client Sample No: 40535.488-CARB03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G4	1	C44	AMQ	1	1	F	7.5	2.5	3	Actinolite	Mg, Si, Ca, Fe			TotActS
						ItemType						Confirmed		Comment
						Brightfield								
						Spectra						SB 3/21/2022		
							J67876BF							
							J67876SP							
G4	2	E43	ADQ	2	2	F	0.8	0.1	8	Actinolite	Mg, Si, Ca, Fe			TotActS
						ItemType						Confirmed		Comment
						Brightfield								
						Diffraction						SB 3/21/2022		0.53nm ROW SPACING
						Spectra						SB 3/21/2022		
							J67877BF							
							J67877DF							
							J67877SP							
G5	3	F42				NSD								
G5	4	G41	AM	3	3	F	1	0.15	6.7	Actinolite				TotActS

**CARB 435 - TEM Raw Data -
Final Report**

Job Number: 220247 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220247R02

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 3/10/2022

Lab/Cor Sample No: S4

Client Sample No: 40535.488-CARB04

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	G42	CDQ	1	1	F	1	0.1	10	Chrysotile	Mg, Si	Faint DF	TChrysStr
							ItemType					Confirmed	Comment
							Brightfield						
							Diffraction	J67878BF					
							Spectra	J67878DF			SB	3/21/2022	0.53nm ROW SPACING
								J67878SP			SB	3/21/2022	
G4	2	H41				NSD							
G5	3	F44				NSD							
G5	4	G43	ADQ	2	2	F	3	0.5	6	Actinolite	Mg, Si, Ca, Fe		TotActS
							ItemType					Confirmed	Comment
							Brightfield	J67879BF					
							Diffraction	J67879DF			SB	3/21/2022	0.53nm ROW SPACING
							Spectra	J67879SP			SB	3/21/2022	
G5	4	G43	AM	3	3	MC 2-0	2	0.25	8	Actinolite			TotActS

Lab/Cor Sample No: S5

Client Sample No: 40535.488-CARB05

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	F44	ADQ	1		MD 1-0	3.5	3.5	1	Actinolite			
G4	1	F44	ADQ		1	MF	1.6	0.2	8	Actinolite	Mg, Si, Ca, Fe		TotActS
							ItemType					Confirmed	Comment
							Brightfield	J67880BF					
							Diffraction	J67880DF			SB	3/21/2022	0.53nm ROW SPACING
							Spectra	J67880SP			SB	3/21/2022	
G4	1	F44	AM	2	2	F	5	1	5	Actinolite			TotActS
G4	2	G43	AM	3	3	F	2	0.5	4	Actinolite			TotActS
G6	3	F42	AM	4	4	F	2.25	0.5	4.5	Actinolite			TotActS
G6	3	F42	AMQ	5	5	F	5	1.5	3.3	Actinolite	Mg, Si, Ca, Fe		TotActS
G6	4	G41	AM	6	6	MC 2-0	1.75	0.4	4.4	Actinolite			TotActS

**CARB 435 - TEM Raw Data -
Final Report**

Job Number: 220247 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220247R02

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 3/10/2022

Lab/Cor Sample No: S6

Client Sample No: 40535.488-CARB06

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	F34	ADQ	1	1	F	1.75	0.75	2.3	Actinolite			TotActS
						ItemType	ItemNum			Confirmed	Comment		
						Brightfield	J67881BF						
						Diffraction	J67882DF			SB 3/21/2022	0.53nm ROW SPACING		
						Spectra	J67882SP			SB 3/21/2022			
G4	1	F34	AM	2	2	F	7.5	1.25	6	Actinolite			TotActS
G4	2	G33	ADQ	3	3	F	1.5	0.25	6	Winchite	Na, Mg, Al, Si, Ca, Fe		Tot_Other
						ItemType	ItemNum			Confirmed	Comment		
						Brightfield	J67883BF						
						Diffraction	J67883DF			SB 3/21/2022	0.53nm ROW SPACING		
						Spectra	J67883SP			SB 3/21/2022			
G4	2	G33	AMQ	4	4	F	1.25	0.2	6.2	Actinolite	Mg, Al, Si, Ca, Fe		TotActS
						ItemType	ItemNum			Confirmed	Comment		
						Spectra	J67884SP			SB 3/21/2022			
G4	2	G33	AM	5	5	MC 3-0	1.25	0.25	5	Actinolite		3/0	TotActS
G5	3	F44	AM	6	6	MC 5-0	1.5	0.25	6	Actinolite			TotActS
G5	3	F44	AMQ	7	7	F	4	1	4	Actinolite	Mg, Si, Ca, Fe		TotActS
G5	4	G43	AM	8	8	MC 5-0	2	0.25	8	Actinolite			TotActS
Count Categories													
PAS	Primary Asbestos Structures					TAS	Total Asbestos Structures					TChrysStr	Total Chrysotile Structures
Tot_Other	Total Libby-Other Amph Structures					TotActS	Total Actinolite Structures						

Reviewed by:

Kate March
 Kate March
 Quality Control Officer

CARB 435 - TEM Final Report

Job Number: 220343

Report Number: 220343R01

Client: PBS Engineering + Environmental

Report Date: 4/14/2022

**Address: 214 E Galer Street
 Seattle, WA 98102**

Project Name: Pierce College Olympic South Abatement and Repairs

Project Num: 40535.488

PO Number:

Sub Project:

All samples had some Mg-Hornblende amphibole structures present. These are similar in chemistry to
Report Note: actinolite fibers, but have a higher aluminum component and tend to be less fibrous.

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

Lab/Cor Num.	Client Sample Number	Analysis	Analysis Notes	Date Received:
220343 - S1	40535.488-CARB09	CARB 435 - TEM	Many Mg-Hornblende Fibers Present	4/4/2022
220343 - S2	40535.488-CARB10	CARB 435 - TEM	Many Mg-Hornblende Fibers Present	4/4/2022
220343 - S3	40535.488-CARB11	CARB 435 - TEM		4/4/2022
220343 - S4	40535.488-CARB12	CARB 435 - TEM		4/4/2022
220343 - S5	40535.488-CARB13	CARB 435 - TEM		4/4/2022
220343 - S6	40535.488-CARB14	CARB 435 - TEM		4/4/2022

CARB 435 - TEM Final Report

Job Number: 220343

Client: PBS Engineering + Environmental

Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220343R01

Report Date: 4/14/2022

CARB 435 - TEM - Samples were processed and analyzed following the California Air Resources Board (CARB) method 435 using transmission electron microscopy (TEM) as an alternative to polarized light microscopy (PLM). All sample preparation was conducted under a negative air ventilation hood with a HEPA filter. Samples were weighed to the nearest 0.2 g prior to and after the every step of the preparation process.

To homogenize the sample particle size to an even sizing, samples were subcontracted to a lab that will grind samples using the CARB 435 method. The samples were then further treated to eliminate interferences may have undergone additional ashing and/or hydrolyzation steps to obtain a gravimetric reduction ratio (GRR - less than 1.0). A reported GRR of 1 indicates that these additional steps were not performed. After collection, the ground sample was weighed. A portion of the material (about 0.2 grams) was suspended in particle-free water and sonicated for three minutes, handshaken for another 30 seconds, and allowed to settle for one minute. A range of aliquots were pipetted into a vacuum filtration system utilizing 25mm MCE filters.

Briefly, the filters were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-dimethylformamide followed by an acetone bath until cleared of filter debris.

The grid preparations were examined in the TEM at low magnification (about 500-1,000x) to determine the preparation showing optimal particulate loading. Each grid opening was analyzed between 1,000 – 20,000x screen magnification.

Samples were analyzed evenly over 2 grids or until a sensitivity of 0.1% was achieved with a minimum of 4 grid openings analyzed. Initial scanning of each grid was done at the lowest magnification to detect larger fibrous structures that contribute the greatest in weight percent value. A representative number of larger structures to number of available grid openings was determined and used to randomly choose available grid openings for higher magnification analysis.

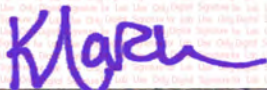
Structures were identified and classified according to ISO counting rules. In the event that the density of particulate created too many overlapping structures to effectively classify each primary structure individually, a less-dense aliquot was chosen. The MC designation was used to group structures of a similar size in one record. MC(2-0) indicates that there were two structures of the recorded length and width in that grid opening and that neither was >5µm in length.

TEM analysis was performed using the JEOL 1200EX transmission electron microscope (TEM), or the Hitachi 7000FA TEM. Both microscopes are equipped with Thermo Fisher X ray Spectral analyzers, with a Silicon Drift Detector. The microscopes are also equipped with digital CCD cameras to capture diffraction patterns and brightfield images. An accelerating voltage of 100 KV was applied. Analyzable fibrous structures were greater than or equal to a 3:1 aspect ratio.

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

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

Reviewed by:


x _____

Kate March
Quality Control Officer

CARB 435 - TEM - Final Report

Job Number: 220343 SEA

Client: PBS Engineering + Environmental

Project Name: Pierce College Olympic South Abatement and Repairs

Report Number: 220343R01

Date Received: 4/4/2022

Project No.: 40535.488

Lab/Cor Sample No. : S1

Client Sample No. : 40535.488-CARB09

GRR : 0.974

Dilution : 0.005

Starting Weight (g) : 0.11

Lab Filter Area (mm²) : 289.38

Grid Openings Analyzed : 4

Average Grid Opening Area (mm²) : 0.0106

Area Analyzed (mm²) : 0.0424

Analytical Sens. (Weight Percent) : 7.29E-07

Analytical Sens. (struc/g) : 1.21E+07

Analyst(s)	Analysis Date	Microscope	Magnification
SB	4/12/2022	JEOL-Sr 1200	20000
SB	4/13/2022	JEOL-Sr 1200	20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹ Primary/Total	
Primary Asbestos Structures	NA*	1.46E+08	12	
Total Asbestos Structures	9.75E-02	1.46E+08		12
Total Chrysotile Structures	NA*	< 1.21E+07		0
Total Libby-Other Amph Structures	NA*	< 1.21E+07		0
Total Actinolite Structures	9.75E-02	1.46E+08		12
Total Anthophyllite Structures	NA*	< 1.21E+07		0
Total Tremolite Structures	NA*	< 1.21E+07		0

Lab/Cor Sample No. : S2

Client Sample No. : 40535.488-CARB10

GRR : 0.986

Dilution : 0.0025

Starting Weight (g) : 0.11

Lab Filter Area (mm²) : 289.38

Grid Openings Analyzed : 4

Average Grid Opening Area (mm²) : 0.0106

Area Analyzed (mm²) : 0.0424

Analytical Sens. (Weight Percent) : 1.54E-06

Analytical Sens. (struc/g) : 2.56E+07

Analyst(s)	Analysis Date	Microscope	Magnification
SB	4/13/2022	JEOL-Sr 1200	20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹ Primary/Total	
Primary Asbestos Structures	NA*	1.79E+08	7	
Total Asbestos Structures	1.38E-02	1.79E+08		7
Total Chrysotile Structures	NA*	< 2.56E+07		0
Total Libby-Other Amph Structures	NA*	< 2.56E+07		0
Total Actinolite Structures	1.38E-02	1.79E+08		7
Total Anthophyllite Structures	NA*	< 2.56E+07		0
Total Tremolite Structures	NA*	< 2.56E+07		0

* NA - weight percent is only calculated using total structures, counting categories that are counted using primary structures are not calculated.

CARB 435 - TEM - Final Report

Job Number: 220343 **SEA**
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488

Report Number: 220343R01
Date Received: 4/4/2022

Lab/Cor Sample No. : S3
Client Sample No. : 40535.488-CARB11
GRR : 0.975
Dilution : 0.0025

Starting Weight (g) : 0.11
Lab Filter Area (mm²) : 289.38
Grid Openings Analyzed : 4
Average Grid Opening Area (mm²) : 0.0106
Area Analyzed (mm²) : 0.0424
Analytical Sens. (Weight Percent) : 1.52E-06
Analytical Sens. (struc/g) : 2.53E+07

Analyst(s) **Analysis Date** **Microscope** **Magnification**
 KM 4/13/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	1.52E+08	6	
Total Asbestos Structures	3.96E-02	1.52E+08		6
Total Chrysotile Structures	NA*	< 2.53E+07		0
Total Libby-Other Amph Structures	NA*	< 2.53E+07		0
Total Actinolite Structures	3.96E-02	1.52E+08		6
Total Anthophyllite Structures	NA*	< 2.53E+07		0
Total Tremolite Structures	NA*	< 2.53E+07		0

Lab/Cor Sample No. : S4
Client Sample No. : 40535.488-CARB12
GRR : 0.949
Dilution : 0.0025

Starting Weight (g) : 0.11
Lab Filter Area (mm²) : 289.38
Grid Openings Analyzed : 4
Average Grid Opening Area (mm²) : 0.0106
Area Analyzed (mm²) : 0.0424
Analytical Sens. (Weight Percent) : 1.40E-06
Analytical Sens. (struc/g) : 2.33E+07

Analyst(s) **Analysis Date** **Microscope** **Magnification**
 SB 4/14/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹	
			Primary	Total
Primary Asbestos Structures	NA*	1.86E+08	8	
Total Asbestos Structures	5.23E-01	1.86E+08		8
Total Chrysotile Structures	NA*	< 2.33E+07		0
Total Libby-Other Amph Structures	NA*	< 2.33E+07		0
Total Actinolite Structures	6.03E-03	9.32E+07		4
Total Anthophyllite Structures	5.17E-01	6.99E+07		3
Total Tremolite Structures	4.16E-04	2.33E+07		1

* NA - weight percent is only calculated using total structures, counting categories that are counted using primary structures are not calculated.

CARB 435 - TEM - Final Report

Job Number: 220343 SEA
Client: PBS Engineering + Environmental
Project Name: Pierce College Olympic South Abatement and Repairs
Project No.: 40535.488

Report Number: 220343R01
Date Received: 4/4/2022

Lab/Cor Sample No. : S5 Starting Weight (g) : 0.10
Client Sample No. : 40535.488-CARB13 Lab Filter Area (mm²) : 289.38
GRR : 0.969 Grid Openings Analyzed : 4
Dilution : 0.0025 Average Grid Opening Area (mm²) : 0.0106
Area Analyzed (mm²) : 0.0424
Analytical Sens. (Weight Percent) : 1.54E-06
Analytical Sens. (struc/g) : 2.56E+07

Analyst(s) Analysis Date Microscope Magnification
SB 4/14/2022 JEOL-Sr 1200 20000

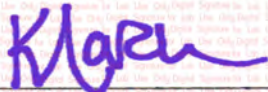
Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹ Primary/Total	
Primary Asbestos Structures	NA*	2.56E+08	10	
Total Asbestos Structures	2.02E-01	2.56E+08		10
Total Chrysotile Structures	NA*	< 2.56E+07		0
Total Libby-Other Amph Structures	NA*	< 2.56E+07		0
Total Actinolite Structures	1.89E-01	2.05E+08		8
Total Anthophyllite Structures	1.32E-02	2.56E+07		1
Total Tremolite Structures	1.72E-04	2.56E+07		1

Lab/Cor Sample No. : S6 Starting Weight (g) : 0.11
Client Sample No. : 40535.488-CARB14 Lab Filter Area (mm²) : 289.38
GRR : 0.932 Grid Openings Analyzed : 4
Dilution : 0.0025 Average Grid Opening Area (mm²) : 0.0106
Area Analyzed (mm²) : 0.0424
Analytical Sens. (Weight Percent) : 1.45E-06
Analytical Sens. (struc/g) : 2.42E+07

Analyst(s) Analysis Date Microscope Magnification
SB 4/14/2022 JEOL-Sr 1200 20000

Structure Type	Weight Percent (%)	Concentration (struc/g)	Struct Count ¹ Primary/Total	
Primary Asbestos Structures	NA*	2.66E+08	11	
Total Asbestos Structures	5.06E-03	2.66E+08		11
Total Chrysotile Structures	NA*	< 2.42E+07		0
Total Libby-Other Amph Structures	NA*	< 2.42E+07		0
Total Actinolite Structures	5.06E-03	2.66E+08		11
Total Anthophyllite Structures	NA*	< 2.42E+07		0
Total Tremolite Structures	NA*	< 2.42E+07		0

Reviewed by:



Kate March
Quality Control Officer

* NA - weight percent is only calculated using total structures, counting categories that are counted using primary structures are not calculated.

**CARB 435 - TEM Raw Data -
Final Report**

Job Number: 220343 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220343R01

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 4/4/2022

Project No.: 40535.488

Lab/Cor Sample No: S1

Client Sample No: 40535.488-CARB09

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G10	1	G41	ADQ	1	1	F	2.5	0.7	3.6	Actinolite	Mg, Si, Ca, Fe		TotActS
							ItemType	ItemNum		Confirmed	Comment		
							Brightfield	J68007BF					
							Diffraction	J68007DF		SB 4/12/2022	0.53nm ROW SPACING		
							Spectra	J68007SP		SB 4/12/2022			
G10	1	G41	AM	2	2	F	2.25	0.6	3.7	Actinolite			TotActS
G10	1	G41	AM	3	3	F	2	0.25	8	Actinolite			TotActS
G10	1	G41	NAS	4	4	F	1.5	0.5	3	Non Asbestos Structure		Mg-Hornblende	
G10	1	G41	NAS	5	5	F	2.5	0.5	5	Non Asbestos Structure		Mg-Hornblende	
G10	2	G34	AM	6	6	F	1.8	0.25	7.2	Actinolite			TotActS
G10	2	G34	AM	7	7	F	5	2	2.5	Actinolite		Beam altered the fiber	TotActS
G10	2	G34	AM	8	8	F	1.5	0.4	3.8	Actinolite			TotActS
G11	3	E44	AMQ	9	9	F	7.5	0.5	15	Actinolite	Mg, Si, Ca, Fe		TotActS
							ItemType	ItemNum		Confirmed	Comment		
							Spectra	J68010SP		SB 4/13/2022			
G11	3	E44	AMQ	10	10	F	1.25	0.15	8.3	Actinolite			TotActS
G11	4	F43	AMQ	11	11	F	2	0.5	4	Actinolite			TotActS
G11	4	F43	AMQ	12	12	F	2.5	0.5	5	Actinolite			TotActS
G11	4	F43	AMQ	13	13	F	1	0.1	10	Actinolite			TotActS
G11	4	F43	AMQ	14	14	F	1.5	0.5	3	Actinolite			TotActS

**CARB 435 - TEM Raw Data -
 Final Report**

Job Number: 220343 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220343R01

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 4/4/2022

Lab/Cor Sample No: S2

Client Sample No: 40535.488-CARB10

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories	
G7	1	E44	NAS	1	1	F	1.5	0.25	6	Non Asbestos Structure	Mg, Al, Si, Ca, Fe	Mg-Hornblende			
							ItemType	ItemNum			Confirmed	Comment			
							Brightfield	J68013BF							
							Spectra	J68013SP			SB	4/13/2022			
G7	1	E44	ADQ	2	2	B	1.5	0.25	6	Actinolite	Mg, Si, Ca, Fe			TotActS	
							ItemType	ItemNum			Confirmed	Comment			
							Brightfield	J68014BF							
							Diffraction	J68014DF			SB	4/13/2022	0.53nm ROW SPACING		
							Spectra	J68014SP			SB	4/13/2022			
G7	1	E44	ADQ	3	3	F	1	0.25	4	Actinolite				TotActS	
G7	2	F43	ADQ	4	4	B	1	0.25	4	Actinolite				TotActS	
G7	2	F43	ADQ	5	5	F	0.75	0.2	3.8	Actinolite				TotActS	
G8	3	F52	ADQ	6		MD 1-0	2.5	1.25	2	Actinolite					
G8	3	F52	ADQ		6	MF	0.6	0.15	4	Actinolite				TotActS	
G8	4	G42	ADQ	7	7	F	1.15	0.25	4.6	Actinolite				TotActS	
G8	4	G42	ADQ	8	8	F	2.5	0.75	3.3	Actinolite				TotActS	

**CARB 435 - TEM Raw Data -
 Final Report**

Job Number: 220343 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220343R01

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 4/4/2022

Lab/Cor Sample No: S3

Client Sample No: 40535.488-CARB11

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G7	1	H33	ADQ	1		MD 1-0	3.4	1.5	2.3	Actinolite				
G7	1	H33	ADQ		1	MF	2.4	0.18	13.3	Actinolite	Mg, Al, Si, Ca, Fe			TotActS
						ItemType						Confirmed		Comment
						Spectra		J68020SP				KM	4/13/2022	
						Diffraction		J68020DF				KM	4/13/2022	0.53nm ROW SPACING
						Brightfield		J68020BF						
G7	2	C41	ADQ	2	2	F	2.8	0.85	3.3	Actinolite	Mg, Al, Si, Ca, Fe			TotActS
						ItemType						Confirmed		Comment
						Spectra		J68021SP				KM	4/13/2022	
						Diffraction		J68021DF				KM	4/13/2022	0.53nm ROW SPACING
						Brightfield		J68021BF						
G7	2	C41	NAS	3	3	F	1.8	0.22	8.2	Non Asbestos Structure		Mg- Hornblende, High Al		
G8	3	H43	ADQ	4	4	F	1.7	0.2	8.5	Actinolite	Mg, Si, Ca, Fe			TotActS
						ItemType						Confirmed		Comment
						Spectra		J68022SP				KM	4/13/2022	
						Brightfield		J68022BF						
G8	3	H43	AQ	5		MD 1-0	8	5	1.6	Actinolite				
G8	3	H43	AQ		5	MF	4	0.8	5	Actinolite				TotActS
						ItemType						Confirmed		Comment
						Spectra		J68023SP				KM	4/13/2022	
						Brightfield		J68023BF						
G8	4	F33	AQ	6	6	F	1.8	0.4	4.5	Actinolite	Mg, Al, Si, Ca, Fe			TotActS
G8	4	F33	AQ	7	7	F	1.6	0.12	13.3	Actinolite				TotActS

**CARB 435 - TEM Raw Data -
Final Report**

Job Number: 220343 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220343R01

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 4/4/2022

Lab/Cor Sample No: S4

Client Sample No: 40535.488-CARB12

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G7	1	F34	NAS	1	1	F	4.25	0.55	7.7	Non Asbestos Structure	Mg, Al, Si, Ca, Fe	Mg-Hornblende		
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68025BF							
						Spectra	J68025SP				SB	4/14/2022		
G7	1	F34	ADQ	2	2	F	2.3	0.4	5.8	Actinolite	Mg, Si, Ca, Fe			TotActS
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68026BF							
						Diffraction	J68026DF				SB	4/14/2022	0.53nm ROW SPACING	
						Spectra	J68026SP				SB	4/14/2022		
G7	1	F34	AMQ	3	3	F	1	0.5	2	Actinolite				TotActS
G7	1	F34	AMQ	4	4	F	1.25	0.4	3.1	Actinolite				TotActS
G7	2	G33	ADQ	5	5	F	4	1	4	Anthophyllite	Mg, Si, Mn, Fe			TotAntS
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68027BF							
						Diffraction	J68027DF				SB	4/14/2022	0.53nm ROW SPACING	
						Spectra	J68027SP				SB	4/14/2022		
G7	2	G33	AMQ	6	6	F	4.25	1.5	2.8	Anthophyllite				TotAntS
G7	2	G33	AMQ	7	7	F	0.75	0.15	5	Actinolite				TotActS
G7	2	G33	AMQ	8	8	F	1.5	0.2	7.5	Tremolite	Mg, Si, Ca, Fe			TotTrS
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68028BF							
						Diffraction	J68028DF				SB	4/14/2022	0.53nm ROW SPACING	
						Spectra	J68028JSP				SB	4/14/2022		
G7	2	G33	ADQ	9	9	F	7.5	2.5	3	Anthophyllite	Mg, Si, Fe			TotAntS
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68029BF							
						Diffraction	J68029DF				SB	4/14/2022	0.53nm ROW SPACING	
						Spectra	J68029SP				SB	4/14/2022		
G8	3	F54				NSD								
G8	4	G53				NSD								

**CARB 435 - TEM Raw Data -
Final Report**

Job Number: 220343 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220343R01

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 4/4/2022

Lab/Cor Sample No: S5

Client Sample No: 40535.488-CARB13

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G7	1	F44				NSD								
G7	2	G43	ADQ	1	1	F	10	1.5	6.7	Actinolite	Mg, Si, Ca, Fe			TotActS
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68030BF							
						Diffraction	J68030DF				SB 4/14/2022	0.53nm ROW SPACING		
						Spectra	J68030SP				SB 4/14/2022			
G7	2	G43	AMQ	2	2	F	2	0.2	10	Actinolite				TotActS
G7	2	G43	AMQ	3	3	F	1.2	0.2	6	Actinolite				TotActS
G7	2	G43	AMQ	4	4	F	1	0.25	4	Actinolite				TotActS
G8	3	E32	AMQ	5	5	F	2	0.3	6.7	Actinolite				TotActS
G8	3	E32	AMQ	6	6	F	2.25	0.5	4.5	Actinolite				TotActS
G8	3	E32	ADQ	7	7	F	2.5	0.75	3.3	Anthophyllite	Mg, Al, Si, Ca, Fe			TotAntS
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68031BF							
						Diffraction	J68031DF				SB 4/14/2022	0.53nm ROW SPACING		
						Spectra	J68031SP				SB 4/14/2022			
G8	3	E32	ADQ	8	8	F	1	0.15	6.7	Tremolite	Mg, Si, Ca, Fe			TotTrS
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68032BF							
						Diffraction	J68032DF				SB 4/14/2022	0.53nm ROW SPACING		
						Spectra	J68032SP				SB 4/14/2022			
G8	4	F31	NAS	9	9	F	4.5	2.5	1.8	Non Asbestos Structure	Mg, Al, Si, Ca, Fe	Mg-Hornblende		
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	J68033BF							
						Spectra	J68033SP							
G8	4	F31	AMQ	10	10	F	0.75	0.15	5	Actinolite				TotActS
G8	4	F31	AMQ	11	11	F	1.2	0.5	2.4	Actinolite				TotActS

**CARB 435 - TEM Raw Data -
Final Report**

Job Number: 220343 SEA

CARB 435 - TEM

Client: PBS Engineering + Environmental

Report Number: 220343R01

Project Name: Pierce College Olympic South Abatement and Repairs

Date Received: 4/4/2022

Lab/Cor Sample No: S6

Client Sample No: 40535.488-CARB14

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G7	1	E34	ADQ	1	1	F	0.75	0.3	2.5	Actinolite	Mg, Si, Ca, Fe		TotActS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	J68057BF						
						Diffraction	J68057DF				SB 4/14/2022	0.53nm ROW SPACING	
						Spectra	J68057SP				SB 4/14/2022		
G7	1	E34	NAS	2	2	F	2	0.4	5	Non Asbestos Structure	Mg, Al, Si, Ca, Fe	Mg-Hornblende	
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	J68058BF						
						Spectra	J68058SP				SB 4/14/2022		
G7	1	E34	AMQ	3	3	F	1	0.35	2.9	Actinolite			TotActS
G7	1	E34	AMQ	4	4	F	0.8	0.2	4	Actinolite			TotActS
G7	2	F33	AMQ	5	5	F	0.8	0.2	4	Actinolite			TotActS
G7	2	F33	AMQ	6	6	F	1	0.5	2	Actinolite			TotActS
G7	2	F33	AMQ	7	7	F	1.2	0.15	8	Actinolite			TotActS
G7	2	F33	AMQ	8	8	F	1	0.15	6.7	Actinolite			TotActS
G7	2	F33	AMQ	9	9	F	1.8	0.2	9	Actinolite			TotActS
G8	3	E44	AMQ	10	10	F	0.5	0.1	5	Actinolite			TotActS
G8	3	E44	AMQ	11	11	F	0.55	0.1	5.5	Actinolite			TotActS
G8	4	F43	AMQ	12	12	F	1	0.2	5	Actinolite			TotActS

Count Categories

PAS	Primary Asbestos Structures	TAS	Total Asbestos Structures	TChrysStr	Total Chrysotile Structures
Tot_Other	Total Libby-Other Amph Structures	TotActS	Total Actinolite Structures	TotAntS	Total Anthophyllite Structures
TotTrS	Total Tremolite Structures				

Reviewed by:

Kate March

Kate March
Quality Control Officer

220843



LABORATORY CHAIN OF CUSTODY

Project: Pierce College Olympic South Abatement & Repairs

Project #: 40535.488

Analysis requested: CARB 435 soil analysis

Date: 4/4/2022

Relinquished by/Signature: Claire Tsai

Date/Time: 4/4/2022

Received by/Signature: Sam Bryan

Date/Time: 4/4/2022 5:30 pm

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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

- Janet Murphy
- Kaitlin Soukup
- Allison Welch
- Toan Nguyen
- Peter Stensland
- Claire Tsai

- Holly Tuttle
- Mike Smith
- Ferman Fletcher
- Cameron Budnick
- Michelle Dodson
- _____

TURN AROUND TIME:

- 1 Hour
- 2 Hours
- 4 Hours

- 24 Hours
- 48 Hours

- 5 Days
- Other _____

SAMPLE DATA FORM			
Sample #	Material	Location	Lab
40535.488-CARB09	Soil	East Elevation ~20ft from center column depth 6-12"	Labcor
40535.488-CARB10	Soil	South Elevation northeast of Robin's nest depth 6-12"	
40535.488-CARB11	Soil	Southwest Elevation lawn area near tires depth 6-12"	
40535.488-CARB12	Soil	West Elevation east side of mound depth 6-12"	
40535.488-CARB13	Soil	Southwest elevation fence near pole seating depth 6-12"	
40535.488-CARB14	Soil	West Elevation north playground fence depth 6-12"	

APPENDIX G

Construction Phase PCB Sampling Information

Bulk PCB Sample Inventory

Bulk PCB Laboratory Data Sheets

Bulk 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>
40535.488-PCB02	Grey interior caulk	Level 1 north window	Aroclor 1016	<0.90	NVL
			Aroclor 1221	<0.90	
			Aroclor 1232	<0.90	
			Aroclor 1242	<0.90	
			Aroclor 1248	<0.90	
			Aroclor 1254	<0.90	
			Aroclor 1260	<0.90	

mg/kg = Milligrams per kilogram

< = Less than the Limit of Detection

ND = Not Detected at the Reporting Limit

June 24, 2022



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

Re: **NVL Batch 2211270.00**

Project Name/Number: 40535.488

Project location: Pierce College Olympic South Abatement and Repairs

Dear Mr. Middaugh,

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

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 40535.488. 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*	1
SDG Number	2211270.00	Analyzed By	Evelyn Ahulu
Date Reported	06/24/2022	Samples Analyzed*	1
Project Number	40535.488	Analysis Method	8082A
Location	Pierce College Olympic South Abatement and Repairs	Preparation Method	3546PR (PCB)

* for this test only

Sample Number	40535.488-PCB02	Received	06/21/2022
Lab Sample ID	22369953	Matrix	Material
Initial Sample Size	2.2241 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.90	< 0.90	06/23/2022
Aroclor-1221	0.90	< 0.90	06/23/2022
Aroclor-1232	0.90	< 0.90	06/23/2022
Aroclor-1242	0.90	< 0.90	06/23/2022
Aroclor-1248	0.90	< 0.90	06/23/2022
Aroclor-1254	0.90	< 0.90	06/23/2022
Aroclor-1260	0.90	< 0.90	06/23/2022
PCBs, Total	0.90	<0.9	

Quality Control Results

Project Number:	40535.488	SDG Number:	2211270
		Project Manager:	Gregg Middaugh
QC Batch(es):	Q1599	Analysis Method:	8082A
QC Batch Method:	3546PR (PCB)	Analysis Description:	Polychlorinated Biphenyls by Gas Chromatography
Preparation Date:	06/22/2022		
Blank: MBLK-2211270			

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		103	40-140
Decachlorobiphenyl			1		125	40-140

Lab Control Sample: LCS-1254-2211270							
Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Aroclor-1254	18.8	mg/Kg	1	20.0	94	40-140	
<i>Surrogates:</i>							
Tetrachloro-m-xylene			1		106	40-140	
Decachlorobiphenyl			1		125	40-140	

Lab Control Sample: LCS-1016+1260-2211270									
Lab Control Sample Duplicate: LCS Dup-1016+1260-2211270									
Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	18	mg/Kg	1	20.0	90	40-140			
	20.1			101	40-140	11.2	50		
Aroclor-1260	20.7	mg/Kg	1	20.0	104	40-140			
	20.2			101	40-140	2.7	50		
<i>Surrogates:</i>									
Tetrachloro-m-xylene			1		122	40-140			
					102	40-140			
Decachlorobiphenyl			1		130	40-140			
					125	40-140			



Surrogate Recovery Summary Report

Client		SDG Number		
PBS Environmental		2211270		
Project				
40535.488				
Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
40535.488-PCB02	22369953	Decachlorobiphenyl	62%	40-140
40535.488-PCB02	22369953	Tetrachloro-m-xylene	53%	40-140
LCS Dup-1016+1260-2211270	LCS Dup-1016+1260-2211270	Decachlorobiphenyl	125%	40-140
LCS Dup-1016+1260-2211270	LCS Dup-1016+1260-2211270	Tetrachloro-m-xylene	102%	40-140
LCS-1016+1260-2211270	LCS-1016+1260-2211270	Decachlorobiphenyl	130%	40-140
LCS-1016+1260-2211270	LCS-1016+1260-2211270	Tetrachloro-m-xylene	122%	40-140
LCS-1254-2211270	LCS-1254-2211270	Decachlorobiphenyl	125%	40-140
LCS-1254-2211270	LCS-1254-2211270	Tetrachloro-m-xylene	106%	40-140
MBLK-2211270	MBLK-2211270	Decachlorobiphenyl	125%	40-140
MBLK-2211270	MBLK-2211270	Tetrachloro-m-xylene	103%	40-140

* Recovery outside limits



INITIAL AND CONTINUING CALIBRATION VERIFICATION

SDG No: **2211270**

Contract: **N/A**

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

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R001592	CCV1 1016-1260	PCB_2022-1-2	06/23/2022	Aroclor-1016	5	5.105	ug/mL	102	80-120
		PCB_2022-1-2	06/23/2022	Aroclor-1260	5	5.983	ug/mL	120	80-120
	CCV1 1254	PCB_2022-1-3	06/23/2022	Aroclor-1254	5	4.977	ug/mL	100	80-120
	ICV 1016-1254- 1260	PCB_2022-1-4	06/23/2022	Aroclor-1016	5	5.574	ug/mL	111	85-115
		PCB_2022-1-4	06/23/2022	Aroclor-1254	5	4.951	ug/mL	99	85-115
		PCB_2022-1-4	06/23/2022	Aroclor-1260	5	5.625	ug/mL	113	85-115
	CCV2 1016-1260	PCB_2022-1-2	06/23/2022	Aroclor-1016	5	5.009	ug/mL	100	80-120
		PCB_2022-1-2	06/23/2022	Aroclor-1260	5	5.789	ug/mL	116	80-120
	CCV2 1254	PCB_2022-1-3	06/23/2022	Aroclor-1254	5	5.251	ug/mL	105	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

NVL Batch Number **2211270.00**
 TAT 5 Days AH No. _____
 Rush TAT _____
 Due Date 6/28/2022 Time 8:00 AM
 Email gregg.middaugh@pbsusa.com
 Fax (866) 727-0140

Project Manager Mr. Gregg Middaugh
 Phone (206) 233-9639
 Office: (800) 628-9639

Project Name/Number: 40535.488 **Project Location:** Pierce College Olympic South Abatement and Repairs

Subcategory Quantitative analysis

Item Code ORG-05 Method 8082 PCB Aroclors <Bulk>

Total Number of Samples 1

Rush Samples _____

Lab ID	Sample ID	Description	A/R
1	22369953	40535.488-PCB02	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Rachelle Miller		NVL	6/21/22	800
Analyzed by	<i>Evelyn Akmal</i>		NVL	6/23/22	16:00
Results Called by					
<input type="checkbox"/> Faxed	<input type="checkbox"/> Emailed				

Special Instructions:

Entered By: Rachelle Miller Date: 6/21/2022 Time: 8:33 AM 1 of 1

APPENDIX H

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

Certificate of Completion

This is to certify that

Ferman L. Fletcher

has satisfactorily completed
4 hours of online refresher training as an
AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

184489

Certificate Number



Apr 5, 2022

Expires in 1 year.

Date(s) of Training

Exam Score: N/A
(if applicable)

A handwritten signature in black ink, appearing to read "AZ", written over a horizontal line.

Instructor: Andre Zwanenburg

ARGUS PACIFIC, INC / 21905 64th AVE W, SUITE 100 / MOUNTLAKE TERRACE, WASHINGTON 98043 / 206.285.3373 / ARGUSPACIFIC.COM

THIS IS TO CERTIFY THAT
PETER STENSLAND
HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE
for
ASBESTOS INSPECTOR INITIAL COURSE

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

Course Date: 6/14/2021 - 6/16/2021

Course Location: Portland, OR

Certificate: IN-21-9342B



CCB #SRA0614 24-Hr Training

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

Expiration Date: 06/16/2022

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