

AIR SAMPLE ASBESTOS ANALYSIS

Client: Lake Oswego School District #7J
PO Box 70
Lake Oswego, OR 97034
Project: Palisades Elementary School
Palisades Elementary School

Report Date: 06/21/2024
Date Received: 06/20/2024
Client Project ID: N/A
PBS Project No.: 21600.041 0007 003
Page No.: 1 of 1

PBS LAB ID/ CLIENT ID	DATE, LOCATION WORKER NAME, ACTIVITY, PPE, ETC.	MINUTES SAMPLED	AVE. FLOW RATE (LPM)	AIR VOLUME (L)	FIBERS/ FIELDS	FIBERS PER cc (f/cc)
A21600.041-0014	6/20/2024 - Clearance-TEM In containment on east end of main hallway after abatement	130	9.5 LPM	1235 L	See Attached TEM Analysis Report	
A21600.041-0015	6/20/2024 - Clearance-TEM In containment near east gym doors in main hallway after abatement	130	9.5 LPM	1235 L	See Attached TEM Analysis Report	
A21600.041-0016	6/20/2024 - Clearance-TEM In containment in northwest hallway after abatement	130	9.5 LPM	1235 L	See Attached TEM Analysis Report	
A21600.041-0017	6/20/2024 - Clearance-TEM In containment near classroom 32 in main hallway after abatement	130	9.5 LPM	1235 L	See Attached TEM Analysis Report	
A21600.041-0018	6/20/2024 - Clearance-TEM In containment in southwest hallway after abatement	130	9.5 LPM	1235 L	See Attached TEM Analysis Report	

REVIEWED BY



Digitally signed by Bob Kleckner
DN: cn=Bob Kleckner, ou=PBS Engineering and
Environmental Inc.,
email=bockkleckner@pbsusa.com, c=US
Date: 2024.06.21 11:36:47 -0700

Approved Signatory

Date

Bob Kleckner

Name

L: Liters of air

LPM: Liters per minute

A: Interlaboratory 95% Upper Confidence Limit

B: Intralaboratory 95% Upper Confidence Limit

C: Limit of detection (LOD)

<LOD: Below the limit of detection

FILTER AREA (Square millimeters): 385



4412 S CORBETT AVENUE
PORTLAND, OR 97239 503.248.1939
FAX 866.727.0140



TEM Summary Report

NVLAP Lab Code 102056-0
TDSHS License No. 300084

2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : PBS Engineering and Environmental Inc.

Lab Job No. : 24T-07217

Project : Palisades Elementary School

Report Date : 06/21/2024

Project # : 21600.041 Ph007 T003

Sample Date : Not Provided

Identification : Asbestos, Air Filter Analysis

Test Method : Transmission Electron Microscopy/X-Ray Analysis (TEM/EDX) EPA 40 CFR 763

Page 1 of 1

On 6/21/2024, five (5) air cassette samples were submitted by a representative of PBS Engineering and Environmental Inc. for asbestos analysis by TEM/EDX. The TEM Analysis Sheets are attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Sample Volume (liters)	Area Analyzed (mm ²)	Total Asbestos Structures	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Asbestos Concentration (s/mm ²)
A21600.041-0014	Clearance	1235	0.06	0	0.005	<0.005	<16.7
A21600.041-0015	Clearance	1235	0.06	0	0.005	<0.005	<16.7
A21600.041-0016	Clearance	1235	0.06	0	0.005	<0.005	<16.7
A21600.041-0017	Clearance	1235	0.06	0	0.005	<0.005	<16.7
A21600.041-0018	Clearance	1235	0.06	0	0.005	<0.005	<16.7

The test report shall not be reproduced, except in full, without written approval of the laboratory. The results relate only to the items tested. These test results do not imply endorsement by NVLAP or any agency of the U.S. Government. The laboratory is not responsible for data provided by non-laboratory personnel. Reported results are dependent on the volume of air sampled and measured by non-laboratory personnel and are not covered by the laboratory's NVLAP accreditation. Laboratory C.V. = 0.10 based on NIST SRM 1876b standard. Accredited by the National Voluntary Laboratory Accreditation Program for Airborne Asbestos Fiber Analysis under Lab Code 102056-0.

Analyst(s): Brian R. Schmidt

Lab Manager : Heather Lopez

Lab Director : Bruce Crabb

Approved Signatory : _____

Approved Signatory : _____



Thank you for choosing Moody Labs



TEM Analysis Sheet

NVLAP Lab Code 102056-0

TDSHS License No. 300084

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : PBS Engineering and Environmental Inc.

Project : Palisades Elementary School

Lab Job No. : 24T-07217

Client Sample #: A21600.041-0014

Sample Desc: Clearance

Filter: 0.45 μm /MCE/385 mm²

Sample Volume: 1235 liters

No. of Squares: 5

Square Field Area: 0.012 mm²Total Area Analyzed: 0.06 mm²

Total Asbestos Structures: 0

Total Asbestos Structures: 0 (>5)

Analytical Sensitivity: 0.005 s/cc

Asbestos Concentration: <0.005 s/cc

Asbestos Concentration: <16.7 s/mm²

Sqr#	Grid#	Sqr ID	Struct #	Structure Type	Structure	L (μm)	W (μm)	SAED	Photo ID	EDX	Spectra ID
1	1	E2		No Structures Detected							
2	1	E4		No Structures Detected							
3	1	E6		No Structures Detected							
4	2	F3		No Structures Detected							
5	2	F5		No Structures Detected							

Microscope: JEOL 1200EXII

KV: 100kV

Mag: 20000

Analyst: Brian R. Schmidt

Page 1 of 5

Comments:

Date Analyzed: 6/21/2024

Sample No.: A21600.041-0014 (Page 1)



TEM Analysis Sheet

NVLAP Lab Code 102056-0

TDSHS License No. 300084

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : PBS Engineering and Environmental Inc.

Project : Palisades Elementary School

Lab Job No. : 24T-07217

Client Sample #: A21600.041-0015

Sample Desc: Clearance

Filter: 0.45 μm /MCE/385 mm²

Sample Volume: 1235 liters

No. of Squares: 5

Square Field Area: 0.012 mm²Total Area Analyzed: 0.06 mm²

Total Asbestos Structures: 0

Total Asbestos Structures: 0 (>5)

Analytical Sensitivity: 0.005 s/cc

Asbestos Concentration: <0.005 s/cc

Asbestos Concentration: <16.7 s/mm²

Sqr#	Grid#	Sqr ID	Struct #	Structure Type	Structure	L (μm)	W (μm)	SAED	Photo ID	EDX	Spectra ID
1	1	E2		No Structures Detected							
2	1	E4		No Structures Detected							
3	1	E6		No Structures Detected							
4	2	F3		No Structures Detected							
5	2	F5		No Structures Detected							

Microscope: JEOL 1200EXII

KV: 100kV

Mag: 20000

Analyst: Brian R. Schmidt

Page 2 of 5

Comments:

Date Analyzed: 6/21/2024

Sample No.: A21600.041-0015 (Page 1)



TEM Analysis Sheet

NVLAP Lab Code 102056-0

TDSHS License No. 300084

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : PBS Engineering and Environmental Inc.

Project : Palisades Elementary School

Lab Job No. : 24T-07217

Client Sample #: A21600.041-0016

Sample Desc: Clearance

Filter: 0.45 μm /MCE/385 mm²

Sample Volume: 1235 liters

No. of Squares: 5

Square Field Area: 0.012 mm²Total Area Analyzed: 0.06 mm²

Total Asbestos Structures: 0

Total Asbestos Structures: 0 (>5)

Analytical Sensitivity: 0.005 s/cc

Asbestos Concentration: <0.005 s/cc

Asbestos Concentration: <16.7 s/mm²

Sqr#	Grid#	Sqr ID	Struct #	Structure Type	Structure	L (μm)	W (μm)	SAED	Photo ID	EDX	Spectra ID
1	1	E2		No Structures Detected							
2	1	E4		No Structures Detected							
3	1	E6		No Structures Detected							
4	2	F3		No Structures Detected							
5	2	F5		No Structures Detected							

Microscope: JEOL 1200EXII

KV: 100kV

Mag: 20000

Analyst: Brian R. Schmidt

Page 3 of 5

Comments:

Date Analyzed: 6/21/2024

Sample No.: A21600.041-0016 (Page 1)



TEM Analysis Sheet

NVLAP Lab Code 102056-0

TDSHS License No. 300084

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : PBS Engineering and Environmental Inc.

Project : Palisades Elementary School

Lab Job No. : 24T-07217

Client Sample #: A21600.041-0017

Sample Desc: Clearance

Filter: 0.45 μm /MCE/385 mm²

Sample Volume: 1235 liters

No. of Squares: 5

Square Field Area: 0.012 mm²Total Area Analyzed: 0.06 mm²

Total Asbestos Structures: 0

Total Asbestos Structures: 0 (>5)

Analytical Sensitivity: 0.005 s/cc

Asbestos Concentration: <0.005 s/cc

Asbestos Concentration: <16.7 s/mm²

Sqr#	Grid#	Sqr ID	Struct #	Structure Type	Structure	L (μm)	W (μm)	SAED	Photo ID	EDX	Spectra ID
1	1	E2		No Structures Detected							
2	1	E4		No Structures Detected							
3	1	E6		No Structures Detected							
4	2	F3		No Structures Detected							
5	2	F5		No Structures Detected							

Microscope: JEOL 1200EXII

KV: 100kV

Mag: 20000

Analyst: Brian R. Schmidt

Page 4 of 5

Comments:

Date Analyzed: 6/21/2024

Sample No.: A21600.041-0017 (Page 1)



TEM Analysis Sheet

NVLAP Lab Code 102056-0

TDSHS License No. 300084

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : PBS Engineering and Environmental Inc.

Project : Palisades Elementary School

Lab Job No. : 24T-07217

Client Sample #: A21600.041-0018

Sample Desc: Clearance

Filter: 0.45 μm /MCE/385 mm²

Sample Volume: 1235 liters

No. of Squares: 5

Square Field Area: 0.012 mm²Total Area Analyzed: 0.06 mm²

Total Asbestos Structures: 0

Total Asbestos Structures: 0 (>5)

Analytical Sensitivity: 0.005 s/cc

Asbestos Concentration: <0.005 s/cc

Asbestos Concentration: <16.7 s/mm²

Sqr#	Grid#	Sqr ID	Struct #	Structure Type	Structure	L (μm)	W (μm)	SAED	Photo ID	EDX	Spectra ID
1	1	E2		No Structures Detected							
2	1	E4		No Structures Detected							
3	1	E6		No Structures Detected							
4	2	F3		No Structures Detected							
5	2	F5		No Structures Detected							

Microscope: JEOL 1200EXII

KV: 100kV

Mag: 20000

Analyst: Brian R. Schmidt

Page 5 of 5

Comments:

Date Analyzed: 6/21/2024

Sample No.: A21600.041-0018 (Page 1)

24T-07217 AMO21
5 PM



TRANSMITTAL AND CHAIN OF CUSTODY FOR AIR TEM SAMPLES

Project No.: 21600.041 Phase 0007 Task 003

Project Site: Palisades Elementary School

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

SENDER

Date Sent: June 20, 2024

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

MORGAN METCALFE

Name

[Signature] 6/20/24 4:15 PM
Authorized Signature Date Time

RECEIVER

Date Received: 6/21/24 Red 61

Company: Moody Labs
Address: 2051 Valley View Lane
Farmers Branch, TX 75234
(972)241-8460

C. Youngblood
Name

[Signature] 6/21/24 8:00 AM
Authorized Signature Date Time

Sender's ID No.	Brief Description	Receiver's ID No.	Air Volume
A21600.041-0014	Clearance-TEM	_____	1,235 L ↓
A21600.041-0015	Clearance-TEM	_____	
A21600.041-0016	Clearance-TEM	_____	
A21600.041-0017	Clearance-TEM	_____	
A21600.041-0018	Clearance-TEM	_____	

Please analyze the attached 5 air sample(s), as listed on this form, for asbestos using Transmission Electron Microscopy, in accordance with A.H.E.R.A., CFR 40, Part 763, Appendix A to Subpart E, protocol, or the most recent version thereof. Please archive any remaining sample components for a minimum of thirty days after analysis date.

Please fax and mail the results to the above address.

TURNAROUND DESIRED: Rush

SPECIAL INSTRUCTIONS: EMAIL RESULTS TO BOB.KLECKNER@PBSUSA.COM + MORGAN.METCALFE@PBSUSA.COM



Asbestos Air Sample Data Sheet

Client: Lake Oswego School District **Project Name:** Palisades World Language School

Project No. 2 1 6 0 0 0 4 1 **Phase** 0 0 0 7 **Task** 0 0 3 (*Required - full project and phase numbers)

Lab (for TEM only): Moody **Turnaround time (check one):** ☒ Rush (6 hr) ☐ 8 hours
(specify) ☐ 24 hours ☐ 48 hours

Email Results to: Bob Kleckner ☐ 3 days ☐ 5 days
(Project Manager)

Samples **received** at office undamaged by: Sign: Date: Time:
(Admin)

Daily Reference Slide Count # _____ (completed by analyst prior to analysis of air samples)		Date _____	Fibers/Field _____	Fibers/mm ² _____	
Date Sampled	6/20/24	6/20/24	6/20/24	6/20/24	6/20/24
Sampled By	MBM	MBM	MBM	MBM	MBM
Analyzed By	Moody	Moody	Moody	Moody	Moody
Sample #	0 0 1 4	0 0 1 5	0 0 1 6	0 0 1 7	0 0 1 8
Air Code	TEM-C	TEM-C	TEM-C	TEM-C	TEM-C
Location; Activity, Worker Name, SS#, Personal Prot., Etc.	In containment on East end of main hallway after abatement	In containment near East gym doors in main hallway after abatement	In containment in NW hallway after abatement	In containment near classroom 32 in main hallway after abatement	In containment in SW hallway after abatement
Pump #					
Time Start	1400	1400	1400	1400	1400
Time End	1610	1610	1610	1610	1610
Total Minutes	130	130	130	130	130
Flow Rate Start	9.5	9.5	9.5	9.5	9.5
Flow Rate End	9.5	9.5	9.5	9.5	9.5
Average Flow Rate	9.5	9.5	9.5	9.5	9.5
Air Volume (L)	1,235	1,235	1,235	1,235	1,235
Filter Area (mm ²)	385	385	385	385	385
Field Area (mm ²)	.00785	.00785	.00785	.00785	.00785
Blank Count *					
Fiber Count					
Field Count					
Fibers/cc					
TWA Group No.					
Sample #: _____ (10% blind recounts)	Date: _____	Original Count: _____ (fibers/fields)		Recount: _____ (fibers/fields)	

Codes: A- Ambient air; B- Blank; C- Clearance; EX- Excursion; IWA- Inside Work Area during abatement; OWA- Outside Work Area during abatement; P- Personal breathing zone; PRE- Pre-Abatement; TEM-A- Ambient air; TEM-B- Blank; TEM-C- Clearance; TEM-ARC- Archive.
It is requested that the client submit blank cassettes at a rate of 2 per 20 work samples, or a minimum of 2, from the same lot as the work samples.
If not supplied, PBS will indicate a blank count of zero and fibers/cc may be higher than actual.