

Paula Short Director of Communications

University Hall 109 • Missoula, Montana t: (405) 243-5806 • e: paula.short@mso.umt.edu

TO:

ASUM Child Care Parents

DATE:

1/30/2019

RE:

Asbestos Test Data - ASUM Childcare

Attached you will find the complete test results for dust wipe samples and air samples collected from spaces in McGill Hall occupied by ASUM Child Care. They are:

LAB CODE	REPORT DATE	TEST DETAILS	DESCRIPTION
T190212	01/21/2019	TEM Dust Wipes	Taken in Child Care S. Classroom
			and Mechanical Room
T190213	01/21/2019	TEM Air Samples	Taken in Child Care S. Classroom
			and Mechanical Room
T190299	01/25/2019	TEM Air Samples	Set in front of (5) air diffusers,
			within Child Care kitchen, restroom
			and common area(s)
T190331	01/28/2019	TEM Dust Wipes	(7) samples taken in N. and S.
		T1	Classrooms in Child Care

Please know that we've invited both environmental contractors (industrial hygienists) to attend the parent meeting Thursday, and we plan to walk through the data tables so that everyone is clear on each column and the numbers they contain.

We have also provided photographs for reference in showing exactly where samples were taken, whether they were air or surface samples, and the test results. Many of you have asked about this level of specificity and wanting to understand exactly where samples were collected.

The industrial hygienists provided some helpful explanations as we reviewed each of the reports. I'm including the key points here for your information, categorized by report.

T190212	01/21/2019	TEM Dust Wipes	Taken in Child Care S. Classroom
			and Mechanical Room

- The third page of this document (labeled 1 of 2 in the lower right), contains the data table with the sample results.
 - The third column from the right labeled # of structures is the actual number of asbestos fibers identified in the sample using an electron microscope.
 - Moving right, the next column is the type of asbestos detected, which is Chrysotile, a material commonly used in buildings constructed at the time McGill Hall was built.
 - The last column on the right is an interpolation of the concentration of asbestos structures per square centimeter based on what was actually identified in the sample.
 - These samples were collected on the surface of the air intake/diffusers. Air quality testing in front of these diffusers did not detect airborne asbestos fibers.

T190213	01/21/2019	TEM Air Samples	Taken in Child Care S. Classroom
·			and Mechanical Room

- The third page of this document (labeled 1 of 2 in the lower right), contains the data table with the sample results.
 - The third column from the right labeled asbestos fibers is the actual number of asbestos fibers identified in the air sample using an electron microscope.
 - The last column on the right is an interpolation of the concentration of asbestos fibers per cubic centimeter based on the sample data.

T190299	01/25/2019	TEM Air Samples	Set in front of (5) air diffusers,
			within Child Care kitchen, restroom
			and common area(s)

- There are five pages of test results from five separate air quality samples. These samples were taken in front of the air diffusers in the child care (locations on accompanying map). They collection timeframe was over 5 hours, which is longer than standard testing, which is 2 hours.
 - At the parent meeting, the contractor will walk through the table to explain the structure classes and the data within the table.
 - The five samples yielded a total of 2 fibers (both non-asbestos). Both contractors consider these readings to be "clean air."

T190331	01/28/2019	TEM Dust Wipes	(7) samples taken in N. and S.
			Classrooms in Child Care

These are the surface wipe samples which came back with unacceptable concentrations of asbestos fibers, prompting the decision to move ASUM child care.

- The third column from the right labeled # of structures is the actual number of asbestos fibers identified in the sample using an electron microscope.
- Moving right, the next column is the type of asbestos detected, which is Chrysotile, a material commonly used in buildings constructed at the time McGill Hall was built.
- The last column on the right is an interpolation of the concentration of asbestos structures per square centimeter based on what was actually identified in the sample.
- The accompanying map depicts the locations of these seven samples all taken within the child care classrooms, hallway and on the floor.
- The highest concentration estimate was on top of a ceiling light fixture; the lowest estimate was taken on the topside of a desk in the middle hallway.

The last page of each test results packet gives a brief description of the location where the samples were collected. We assembled a photo/map to provide greater detail and reference points so that you can see the samples/results relative to the orientation of the child care facility.

We are awaiting a final set of results from samples taken this week, including some additional points within the child care facility as well as other areas in McGill Hall. These will be shared as soon as they become available.

Thank you for your patience as we've moved as quickly as possible to gather this information. I hope you'll be able to attend the parent meeting tomorrow (Thursday, 1/31) at 5:30 pm in the University Center Theater. Child care will be available in UC 330.

I've included the agenda for the meeting along with these materials.

January 21, 2019

GEM Environmental P.O. Box 9053 Missoula, MT 59807

CLIENT PROJECT:

U of M - Mcgill Hall Rm 014/001A, 19-024

LAB CODE:

T190212

Dear Customer:

Enclosed are asbestos analysis results for TEM dust wipe samples received at our laboratory on January 21, 2019. The samples were analyzed for asbestos using transmission electron microscopy (TEM) per ASTM D6480-05 Method.

Currently, there is no regulatory limit for asbestos in dust. The analytical sensitivity for the ASTM D6480-05 method is 1,000 structures per square centimeter.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,

Tianbao Bai, Ph.D., CIH

Mansas De.

Laboratory Director



ASBESTOS ANALYTICAL REPORT By: Transmission Electron Microscopy

Prepared for

GEM Environmental

CLIENT PROJECT: U of M - Mcgill Hall Rm 014/001A, 19-024

LAB CODE:

T190212

TEST METHOD:

Dust Wipe

ASTM D6480-05

REPORT DATE:

01/21/19



ASBESTOS DUST ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

Client:

GEM Environmental

P.O. Box 9053

Missoula, MT 59807

Lab Code:

T190212

Date Received: 01-21-19

Date Analyzed: 01-21-19

Date Reported: 01-21-19

Project: U of M - Mcgill Hall Rm 014/001A, 19-024

TEM DUST WIPE (ASTM D6480-05)

Client ID Lab ID	Area Sampled (cm²)	Area Analyzed (mm²)	Filtration Factor	Analytical Sensitivity (s/cm²)	# of Structures	Asbestos Type	Concentration (s/cm²)
AHA-W-014 -01 T91373	930	0.1	200	2,100	23	Chrysotile	47,000
AHA-W-000B -01 T91374	930	0.1	200	2,100	36	Chrysotile	74,000
AHA-W-001A -01 T91375	930	0.1	200	2,100	53	Chrysotile	110,000



LEGEND: None

METHOD: ASTM D6480-05

ANALYTICAL SENSITIVITY: 1,000 structures/cm²

REGULATORY LIMIT: None

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Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

Laboratory Director



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730 SE Maynard Road, Cary, NC 27511 Tel: 866-481-1412; Fax: 919-481-1442

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COMPANY INFORMATION :	PROJECT INFORMATION
ECEI CLIENT#:	Job Contact: Christopher Casas
Company: GEM Environmental, Inc.	Email / Tel: chris.casas@gem-environmental.com
Address: P.O. Box 9053	Project Name: U. F.MMigil Hall Rm 014/001A
Missoula, MT 59807	Project ID#: 14.074
Emaíl: chris.casas@gem-environmental.com	PO#:
Tel: 406-370-4139 Fax:	STATE SAMPLES COLLECTED IN: MT

				TURN AR	OUND T	IME	hat the fire
ASBESTOS	METHOD	4 HR	8 HR	1 DAY	2 DA	Y 3 DAY	5 DAY
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PLM POINT COUNT (1000)	EPA 600						
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TEM AIR	EPA AHERA						
TEM AIR	NIOSH 7402		×				
TEM AIR (PCME)	ISO 10312						
TEM AIR	ASTM 6281-15						
TEM BULK	CHATFIELD						
TEM DUST WIPE	ASTM D6480-05 (2010)		図				
TEM DUST MICROVAC	ASTM D5755-09 (2014)						
TEM SOIL	ASTM D7521-16				È		
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By submitting samples, you are agreeing to ECEI's Terms and Conditions. Samples will be disposed of 30 days after analysis

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SAMPLING FORM

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COMPANY CONTEXCENSION CORMATION	1000 1000 1000 1000 1000 1000 1000 100
Company: GEM Environmental, Inc.	Job Contact: Christopher Casas
Project Name:	
Project ID #:	Tel: 406-370-4139

SAMPLE ID#		VOLUME/		
1	DESCRIPTION /LOCATION	AREA	4 类键型LC型键图即T	
AHA-W-014-01	RMOIN AND TOTAKE FOR PHOOM	155	PLM	TEM
AHA - W-0008-01	Ar supply Diffuser poors	156	PLM	TEM
AHA -W -001A-01	ATT SUPPLY DI HUSET BOTA	156	PLM	TEM
			PLM	TEM
P(M - 39	Rown oll Below loading	1068	PLM	TEM
P(M-418	Rosm ool A - Kitchen	1865	PLM	TEM
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Version: CCOC.07.18.2/2.LD

January 21, 2019

GEM Environmental P.O. Box 9053 Missoula, MT 59807

CLIENT PROJECT:

U of M - Mcgill Hall Rm 014/001A, 19-024

LAB CODE:

T190213

Dear Customer:

Enclosed are asbestos analysis results for TEM air samples received at our laboratory on January 21, 2019. The samples were analyzed for asbestos using transmission electron microscopy (TEM) per NIOSH 7402 Method.

The current OSHA 8-hour time weighted average permissible exposure limit (PEL) for asbestos is 0.1 f/cc and the 30 minutes excursion limit is 1 f/cc. The detection limit for the NIOSH 7402 method is one confirmed asbestos fiber above 95% expected mean blank value.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,

Tianbao Bai, Ph.D., CIH

Laboratory Director



ASBESTOS ANALYTICAL REPORTBy: Transmission Electron Microscopy

Prepared for

GEM Environmental

CLIENT PROJECT: U of M - Mcgill Hall Rm 014/001A, 19-024

LAB CODE:

T190213

TEST METHOD:

Air NIOSH 7402

REPORT DATE:

01/21/19



By: TRANSMISSION ELECTRON MICROSCOPY

Client: GEM E

GEM Environmental

P.O. Box 9053

Missoula, MT 59807

Lab Code:

T190213

Date Received: 01-21-19

Date Analyzed: 01-21-19

Date Reported: 01-21-19

Project: U of M - Mcgill Hall Rm 014/001A, 19-024

TEM AIR NIOSH 7402

Client ID Lab ID	Volume (Liters)	PCM f/cc	Asbestos Type	Asbestos Fibers	Asbestos %	Asbestos f/cc
PCM-39 T91376	1088	0.0032	None Detected	0	0	<0.0032
PCM-48 T91377	1065	0.0025	Chrysotile	1	100	0.0025



LEGEND: f/cc = fibers/cubic centimeter

METHOD: NIOSH 7402

Limit of Detection: 1 confirmed asbestos fiber above 95% of expected mean blank value

REGULATORY LIMIT: OSHA Excursion Limit (EL) is 1.0 fibers per cc based on a 30 minute sample; OSHA Permissible Exposure Limit (PEL) is 0.10 fibers per cc based on 8 hour TWA

ANALYTICAL EQUIPMENT: JEOL Electron Microscope (JEM-1200 EXII)

NORAN EDS System 7 (NSS112E)

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Information provided by customer includes customer sample ID, location, volume and area as well as

No Field Blanks were submitted for project T190213.

ANALYST

Kamila Reichert

APPROVED BY:

Tianbao Bai, Ph.D., CIH Laboratory Director



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Tel;	866	3-481 - 141	2:	Fax	c 919-	481	-144	12

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COMPANYINFORMATION	PROJECT INFORMATION
	Job Contact: Christopher Casas
Company: GEM Environmental, Inc.	Email / Tel: chris.casas@gem-environmental.com
Address: P.O. Box 9053	Project Name: U. F. M Megil Hall Rm 014/001A
Missoula, MT 59807	Project ID#: 19.074
Emall: chris.casas@gem-environmental.com	PO#:
Tel: 406-370-4139 Fax:	STATE SAMPLES COLLECTED IN MT

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ASBESTOS	METHOD	4 HR	8 HR - 1	1 DAY	2 DAY	3 DAY	5 DÁY
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PLM POINT COUNT (1000)	ÉPA 600						
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PLM BULK	CARB 435						
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TEM AIR	EPA AHERA						
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TEM AIR (PCME)	ISO 10312						
TEM AIR	ASTM 6281-15					и. П	
TEM BULK	CHATFIELD						
TEM DUST WIRE	ASTM D6480-05 (2010)		[2]				
TEM DUST MICROVAC	ASTM D5755-09 (2014)						
TEM SOIL	# ASTM D7521-16						
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By submitting samples, you are agreeing to ECEI's Terms and Conditions. Samples will be disposed of 30 days after analysis

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SAMPLING FORM

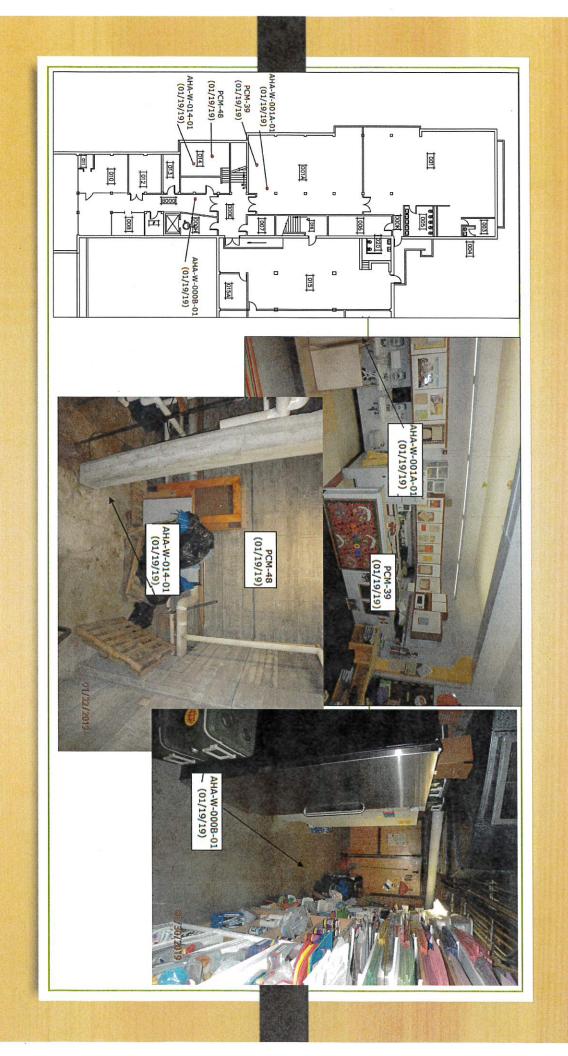
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COMPANY/CONFACTINEORMATION TALES	
Company: GEM Environmental, Inc.	Job Contact: Christopher Casas
Project Name:	
Project ID #:	Tel: 406-370-4139

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		VOLUME/		
	DESCRIPTION LOCATION	AREA		ST (15)
AHA-W-014-01	Anoly Ar Tarake For Place	150	PLM	TEM
AHA - W - 0008-01	AN SURPLY DIHILLE BOOK	156	PLM	TEM
AHA - W - 001A-01	Are Supply of Huser BOTA	15F	PLM	TEM
			PLM	TEM
P(M-39	Rown oll Below loading	1068	PLM	TEM
PCM- 48	Rosen col A - Kitchen	1065	PLM	TEM
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ASBESTOS LABORATORY REPORTby Transmission Electron Microscopy

Prepared For

GEM Environmental

Client Project:

U of M - McGill Hall Rm's 001A, 001, 005, 19-024

CEI Lab Code:

T190299

Test Method:

ISO 10312

Date Reported:

01/25/19

TEL: 919-481-1413 www.EurofinsUS.com/CEI



CEI

January 25, 2019

GEM Environmental P.O. Box 9053 Missoula, MT 59807

CLIENT PROJECT: T190299

Dear Customer:

Enclosed are asbestos analysis results for TEM air samples received at our laboratory on January 25, 2019. The samples were analyzed for PCM equivalent (PCMe) asbestos structures using transmission electron microscopy (TEM) per ISO 10312 method.

Currently, there is no regulatory standard for the airborne asbestos structures using the specified ISO method. The analytical sensitivity for the ISO 10312 method varies with the sample volume and the TEM grid areas analyzed.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

Tianbao Bai, Ph.D., CIH Laboratory Director

Transas Bei



By: TRANSMISSION ELECTRON MICROSCOPY

CLIENT:	<u> </u>	GEM Environmental	CEI Lab Code:	MIDS AND ADDRESS OF	T190299
		P.O. Box 9053	CEI Sample ID:		T91941
		Missoula, MT 59807	Client Sample ID:		PMC-01
			Date Received:		1/25/2019
			Date Analyzed:		1/25/2019
Project:	u .	U of M - McGill Hall Rm's 001A,	Date Reported:		1/25/2019
		001, 005, 19-024			www.ii

Minimum Level of Analysis (chry):	CD	Air Volume (L):	1,260
Minimum Level of Analysis (amph):	ADX	Grid Openings Analyzed:	57
Filter Type:	MCE	Average Grid Opening Area:	0.018
Filter Size:	385 mm ²	Area Analyzed:	1.02
Pore Size:	0.8 um	Analytical Sensitivity (str/cc):	0.00030
Magnification:	10,000	Detection Limit (str/cc):	0.00090

	Structur		Poisson 95% Confidence Interval			
	Primary	Total	Density	Conc	LCL	UCL
Structure Class	Structure	Structure	str/mm ²	(str/cc)	(str/cc)	(str/cc)
PCMe Strs (chry)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Strs (amph)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Non-Asb Strs	1		0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb Strs	0		<0.98	<0.00030	<0.00030	0.00090
Total PCMe Str (All)	1		0.98	<0.00030	< 0.00030	0.00090
PCMe F&B (chry)		0	<0.98	<0.00030	<0.00030	0.00090
PCMe F&B (amph)		0	<0.98	<0.00030	< 0.00030	0.00090
PCMe Non-Asb F&B		1	0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb F&B		0	<0.98	<0.00030	< 0.00030	0.00090
Total PCMe F&B (All)		1	0.98	<0.00030	<0.00030	0.00090



By: TRANSMISSION ELECTRON MICROSCOPY

CLIENT:	GEM Environmental	CEI Lab Code:	T190299
12 18	P.O. Box 9053	CEI Sample ID:	T91942
	Missoula, MT 59807	Client Sample ID:	PCM-02
		Date Received:	1/25/2019
		Date Analyzed:	1/25/2019
Project:	U of M - McGill Hall Rm's 001A, 001, 005, 19-024	Date Reported:	1/25/2019

Minimum Level of Analysis (chry):	CD	Air Volume (L):	1,260
Minimum Level of Analysis (amph):	ADX	Grid Openings Analyzed:	57
Filter Type:	MCE	Average Grid Opening Area:	0.018
Filter Size:	385 mm ²	Area Analyzed:	1.02
Pore Size:	0.8 um	Analytical Sensitivity (str/cc):	0.00030
Magnification:	10,000	Detection Limit (str/cc):	0.00090

	Structur	e Count			Poisson 95% (Confidence Interval
Structure Class	Primary Structure	Total Structure	Density str/ mm ²	Conc (str/cc)	LCL (str/cc)	UCL (str/cc)
PCMe Strs (chry)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Strs (amph)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Non-Asb Strs	0		<0.98	<0.00030	< 0.00030	0.00090
Total PCMe Asb Strs	0		<0.98	<0.00030	<0.00030	0.00090
Total PCMe Str (All)	0		<0.98	<0.00030	< 0.00030	0.00090
PCMe F&B (chry)		0	<0.98	<0.00030	<0.00030	0.00090
PCMe F&B (amph)		0	<0.98	<0.00030	<0.00030	0.00090
PCMe Non-Asb F&B		0	<0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb F&B		0	<0.98	<0.00030	< 0.00030	0.00090
Total PCMe F&B (All)		0	<0.98	<0.00030	<0.00030	0.00090



By: TRANSMISSION ELECTRON MICROSCOPY

Brown and Market Street, Stree			
CLIENT:	GEM Environmental	CEI Lab Code:	T190299
	P.O. Box 9053	CEI Sample ID:	T91943
	Missoula, MT 59807	Client Sample ID:	PCM-03
		Date Received:	1/25/2019
		Date Analyzed:	1/25/2019
Project:	U of M - McGill Hall Rm's 001A,	Date Reported:	1/25/2019
	001, 005, 19-024		

Minimum Level of Analysis (chry):	CD	Air Volume (L):	1,260
Minimum Level of Analysis (amph):	ADX	Grid Openings Analyzed:	57
Filter Type:	MCE	Average Grid Opening Area:	0.018
Filter Size:	385 mm ²	Area Analyzed:	1.02
Pore Size:	0.8 um	Analytical Sensitivity (str/cc):	0.00030
Magnification:	10,000	Detection Limit (str/cc):	0.00090

	Structur	e Count			Poisson 95% C	Confidence Interval
	Primary	Total	Density	Conc	LCL	UCL
Structure Class	Structure	Structure	str/ mm ²	(str/cc)	(str/cc)	(str/cc)
PCMe Strs (chry)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Strs (amph)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Non-Asb Strs	1		0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb Strs	0		<0.98	<0.00030	<0.00030	0.00090
Total PCMe Str (All)	1		0.98	<0.00030	<0.00030	0.00090
PCMe F&B (chry)		0	<0.98	<0.00030	<0.00030	0.00090
PCMe F&B (amph)		0	<0.98	<0.00030	<0.00030	0.00090
PCMe Non-Asb F&B		1	0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb F&B		0	<0.98	<0.00030	<0.00030	0.00090
Total PCMe F&B (All)		1	0.98	<0.00030	<0.00030	0.00090



By: TRANSMISSION ELECTRON MICROSCOPY

CLIENT:		CEI Lab Code:	T190299
	GEM Environmental	CEI Sample ID:	T91944
	P.O. Box 9053	Client Sample ID:	PCM-04
	Missoula, MT 59807	Date Received:	1/25/2019
		Date Analyzed:	1/25/2019
Project:	U of M - McGill Hall Rm's 001A,	Date Reported:	1/25/2019
	001, 005, 19-024		

Minimum Level of Analysis (chry):	CD	Air Volume (L):	1,260
Minimum Level of Analysis (amph):	ADX	Grid Openings Analyzed:	57
Filter Type:	MCE	Average Grid Opening Area:	0.018
Filter Size:	385 mm ²	Area Analyzed:	1.02
Pore Size:	0.8 um	Analytical Sensitivity (str/cc):	0.00030
Magnification:	10,000	Detection Limit (str/cc):	0.00090

	Structure Count				Poisson 95% Confidence Interv	
	Primary	Total	Density	Conc	LCL	UCL
Structure Class	Structure	Structure	str/ mm ²	(str/cc)	(str/cc)	(str/cc)
PCMe Strs (chry)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Strs (amph)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Non-Asb Strs	0	9	<0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb Strs	0		<0.98	<0.00030	<0.00030	0.00090
Total PCMe Str (All)	0		<0.98	<0.00030	< 0.00030	0.00090
PCMe F&B (chry)		0	<0.98	<0.00030	<0.00030	0.00090
PCMe F&B (amph)		0	<0.98	<0.00030	< 0.00030	0.00090
PCMe Non-Asb F&B		0	<0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb F&B		0	<0.98	<0.00030	<0.00030	0.00090
Total PCMe F&B (All)		0	<0.98	<0.00030	<0.00030	0.00090



By: TRANSMISSION ELECTRON MICROSCOPY

CLIENT:	GEM Environmental	CEI Lab Code:	T190299
	P.O. Box 9053	CEI Sample ID:	T91945
	Missoula, MT 59807	Client Sample ID:	PCM-05
		Date Received:	1/25/2019
		Date Analyzed:	1/25/2019
Project:	U of M - McGill Hall Rm's 001A,	Date Reported:	1/25/2019
	001, 005, 19-024		

Minimum Level of Analysis (chry):	CD	Air Volume (L):	1,260
Minimum Level of Analysis (amph):	ADX	Grid Openings Analyzed:	57
Filter Type:	MCE	Average Grid Opening Area:	0.018
Filter Size:	385 mm ²	Area Analyzed:	1.02
Pore Size:	0.8 um	Analytical Sensitivity (str/cc):	0.00030
Magnification:	10,000	Detection Limit (str/cc):	0.00090

	Structur	e Count			Poisson 95% C	onfidence Interval
Structure Class	Primary Structure	Total Structure	Density str/ mm ²	Conc (str/cc)	LCL (str/cc)	UCL (str/cc)
PCMe Strs (chry)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Strs (amph)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe Non-Asb Strs	0		<0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb Strs	0		<0.98	<0.00030	<0.00030	0.00090
Total PCMe Str (All)	0		<0.98	<0.00030	<0.00030	0.00090
PCMe F&B (chry)		0	<0.98	<0.00030	<0.00030	0.00090
PCMe F&B (amph)		0	<0.98	<0.00030	< 0.00030	0.00090
PCMe Non-Asb F&B		0	<0.98	<0.00030	<0.00030	0.00090
Total PCMe Asb F&B		0	<0.98	<0.00030	< 0.00030	0.00090
Total PCMe F&B (All)		0	<0.98	<0.00030	<0.00030	0.00090



LEGEND:

chry = chrystotile

amph = amphiboles

mm² = square millimeter

strs = structures

um = micrometer or micron

F&B = fibers and bundles

str/cc = structures per cubic centimeter

PCMe = PCM equivalent

LCL = lower confidence limit

UCL = upper confidence limit

METHOD:

ISO 10312

Ambient Air - Determination of Asbestos Fibers - Direct Transfer Transmission

Electron Microscopy Method, 1995

Analytical Sensitivity: Varies with the air volume and TEM grid area analyzed

REGULATORY LIMIT:

None

EXPLANATION:

PCMe structures = A fiberous structure of aspect ratio ≥ 3:1, longer than 5 um.

PCMe Fibers or Bundle = A fiber or bundle of aspect ratio ≥ 3:1, longer than 5 um

PCMe Non-Asb Strs = A non-asbestos structure of aspect ratio ≥ 3:1, longer than

5 um

PCMe Non-Asb F&B = A non-asbestos fiber or bundle of aspect ratio ≥ 3:1, longer

than 5 um

DISCLAIMER:

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information in preparing and presenting analytical results. Interpretation of the

analytical results is the sole responsibility of the client.



T190299 CHAIN OF CUSTODY

CTI (LAB USE ONLY:
CEIC	
	ECEI Lab Code:
	ECEI Lab I.D. Range:

730 SE Maynard Road, Cary, NC 27511 Tel: 866-481-1412; Fax: 919-481-1442

COMPANY INFORMATION PROJECT INFORMATION **ECEI CLIENT #:** Job Contact: Christopher Casas Company: GEM Environmental, Inc. Email / Tel: chris.casas@gem-environmental.com Project Name: Wof M- McGill hall An's voil, 001 Address: P.O. Box 9053 Missoula, MT 59807 Project ID#: 19-074 rbrownell@northun Email: chris.casas@gem-environmental.com + 1h. com PO #: Tel: 406-370-4139 Fax: STATE SAMPLES COLLECTED IN: MT

				TURN ARC	DUND TIME		
ASBESTOS	METHOD	4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600						
PLM POINT COUNT (400)	EPA 600	[] [] [] []					製口絲
PLM POINT COUNT (1000)	EPA 600						
PLM GRAV w POINT COUNT	EPA 600				w Dawn		
PLM BULK	CARB 435						
PCM AIR*	NIOSH 7400						
TEM AIR	EPA AHERA						
TEM AIR	NIOSH 7402						
TEM AIR (PCME)	ISO 10312		×				
TEM AIR	ASTM 6281-15						
TEM BULK	CHATFIELD						
TEM DUST WIPE	ASTM D6480-05 (2010)				л П		
TEM DUST MICROVAC	ASTM D5755-09 (2014)						
TEM SOIL	ASTM D7521-16						
TEM VERMICULITE	CINCINNATI METHOD						
TEM QUALITATIVE	IN-HOUSE METHOD						
OTHER:							
ilanks should be taken from the same s REMARKS / SPECIAL IN		Positive/St	(6 P)			ccept Sampleject Sample	
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SAMPLING FORM

CFI

COMPANY CONTACT INFORMATION				
Company: GEM Environmental, Inc.	Job Contact: Christopher Casas			
Project Name: Wot M- Mchill Hall Am's col Arcol, oce				
Project ID #:	Tel: 406-370-4139			

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TE	ST
PCM-01	RM polA - Sooth End of HUAG Trunk	1260	PLM	TEM [
PCM-02	Rm-001A - Middle of Huac Fronts	1260	PLM	TEM
PCM-03	Rm-cold- North End of Heat Trusk	1260	PLM	TEM
PCM-04	Rom ous - Middle of Restroom	1260	PLM	TEM
PLM-05	Rmool - Kitchen	1260	PLM	TEM
			PLM	TEM
			PLM	TEM
			PLM []	TEM
			PLM	TEM
			PLM	TEM
			PLM	TEM
			PLM []	TEM
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			PLM	TEM

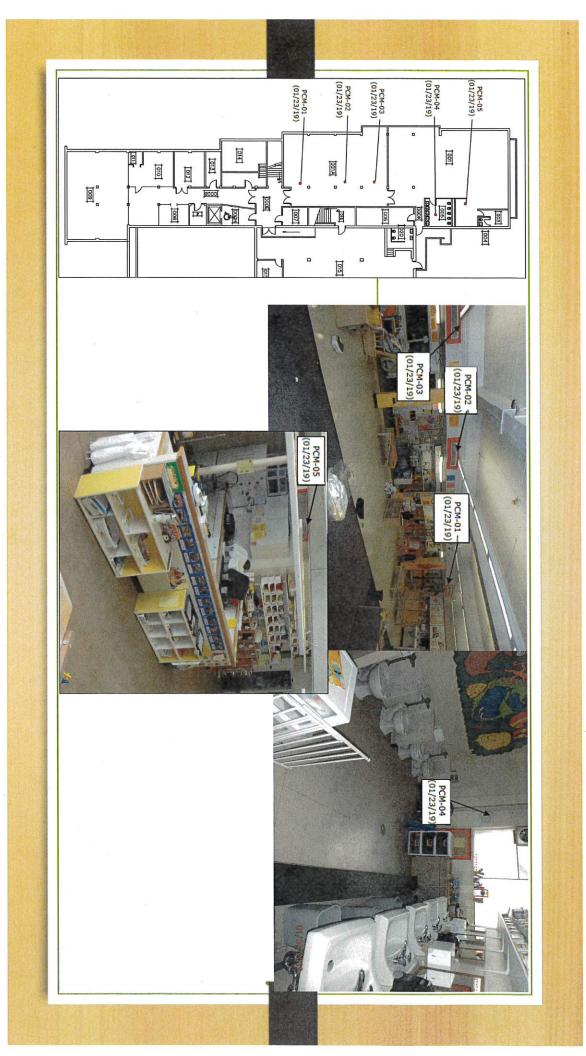
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Allie Peregoy

Allie Peregoy

From: Chris Casas <chris.casas@gem-environmental.com> Sent: Thursday, January 24, 2019 4:51 PM To: Allie Peregoy Cc: **Bob Brownell** Subject: RE: Edit a Report **EXTERNAL EMAIL*** Allie, NIOSH 7400 A rules state "there is no upper limit on the fiber diameter in the counting rules" ISO 10312 method defines a PCME fiber as "any particle with parallel or stepped sides, greater, longer than 5 um and which has a diameter between .2 and 3.0 um" Therefore the Method for PCME counting under ISO 10312 method will not provide a count of PCM fibers equivalent under NIOSH 7400 method. May the CEI analysis for the 10312 be modified to include fibers of all diameters so any PCME fibers are equivalent to PCM fibers under NIOSH 7400 ? let me know your thoughts, and or recomendations. Thanks, -Chris Christopher E. Casas | Principle Industrial Hygienist & Geologist | GEM Environmental, Inc. | 201 N. Russel St. Suite 6 | Missoula, MT 59801 Cell: 406-370-4139 ---- On Thu, 24 Jan 2019 08:52:15 -0700 < AlliePeregoy@eurofinsUS.com > wrote ----Hey Chris, Here is a template of what it would look like. Let me know if you need anything else. Best,



January 28, 2019

GEM Environmental P.O. Box 9053 Missoula, MT 59807

CLIENT PROJECT:

U of M - McGill Hall - 001A, 001, 19-024

LAB CODE:

T190331

Dear Customer:

Enclosed are asbestos analysis results for TEM dust wipe samples received at our laboratory on January 28, 2019. The samples were analyzed for asbestos using transmission electron microscopy (TEM) per ASTM D6480-05 Method.

Currently, there is no regulatory limit for asbestos in dust. The analytical sensitivity for the ASTM D6480-05 method is 1,000 structures per square centimeter.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,

Tianbao Bai, Ph.D., CIH

Mansas Di

Laboratory Director



ASBESTOS ANALYTICAL REPORT By: Transmission Electron Microscopy

Prepared for

GEM Environmental

CLIENT PROJECT: U of M - McGill Hall - 001A, 001, 19-024

LAB CODE:

T190331

TEST METHOD:

Dust Wipe

ASTM D6480-05

REPORT DATE:

01/28/19



ASBESTOS DUST ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

Client:

GEM Environmental

P.O. Box 9053

Missoula, MT 59807

Lab Code:

T190331

Date Received: 01-28-19

Date Analyzed: 01-28-19

Date Reported: 01-28-19

Project: U of M - McGill Hall - 001A, 001, 19-024

TEM DUST WIPE (ASTM D6480-05)

Client ID Lab ID	Area Sampled (cm²)	Area Analyzed (mm²)	Filtration Factor	Analytical Sensitivity (s/cm²)	# of Structures	Asbestos Type	Concentration (s/cm²)
AHA-W-001A -02 T92293	100	0.1	20	1,900	6	Chrysotile	12,000
AHA-W-001A -03 T92294	100	0.1	10	960	16	Chrysotile	15,000
AHA-W-001 -01 T92295	100	0.1	10	960	22	Chrysotile	21,000
AHA-W-001 -02 T92296	100	0.1	20	1,900	51	Chrysotile	98,000
AHA-W-000B -02 T92297	100	0.1	20	1,900	12	Chrysotile	23,000
AHA-W-000B -03 T92298	100	0.1	10	960	5	Chrysotile	4,800
AHA-W-000B -04 T92299	100	0.1	20	1,900	7	Chrysotile	13,000



LEGEND: None

METHOD: ASTM D6480-05

ANALYTICAL SENSITIVITY: 1,000 structures/cm²

REGULATORY LIMIT: None

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Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST:

Kaon / Kaon / I

APPROVED BY:

Tianbao Bai, Ph.D., CIH Laboratory Director



CHAIN OF CUSTODY

730 SE Maynard Road, Cary, NC 27511 Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONL	Y. .(\$ 4 6 5 5)				
ECEI Lab C	ode:	T140	33 I	C)
ECEI Lab I.I	D. Range:	T92	293-	299	

COMPANY INFORMATION	PROJECT INFORMATION
ECEI CLIENT #:	Job Contact: Christopher Casas
Company: GEM Environmental, Inc.	Email / Tel: chris.casas@gem-environmental.com
Address: P.O. Box 9053	Project Name: U of M. Mccill hall-ool A, ool
Missoula, MT 59807	Project ID#: 19-024
Email: chris.casas@gem-environmental.com	PO #:
Tel: 406-370-4139 Fax:	STATE SAMPLES COLLECTED IN: MT

				TURN ARC	T DNU	ME	
ASBESTOS	METHOD	4 HR	8 HR	1 DAY	2 DA	Y 3 DAY	Y 5 DAY
PLM BULK	EPA 600						
PLM POINT COUNT (400)	EPA 600						
PLM POINT COUNT (1000)	EPA 600						
PLM GRAV W POINT COUNT	EPA 600						
PLM BULK	CARB 435						
PCM AIR*	NIOSH 7400						
TEM AIR	EPA AHERA		· 🗀 📩				
TEM AIR	NIOSH 7402						
TEM AIR (PCME)	ISO 10312						<u> </u>
TEMAIR	ASTM 6281-15						
TEM BULK	CHATFIELD					<u> </u>	
TEM DUST WIPE	ASTM D6480-05 (2010)		X.				
TEM DUST MICROVAC	ASTM D5755-09 (2014)					<u> </u>	
TEM SOIL	ASTM D7521-16						
TEM VERMICULITE	CINCINNATI METHOD				· []		
TEM QUALITATIVE	IN-HOUSE METHOD						
OTHER:							
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REMARKS / SPECIAL IN	ISTRUCTIONS: W.F	ositive St	ob	:		Accept Sa	mples
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By submitting samples, you are agreeing to ECEI's Terms and Conditions. Samples will be disposed of 30 days after analysis

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SAMPLING FORM

CE

COMPANY CONTACT INFORMATION	
Company: GEM Environmental, Inc.	Job Contact: Christopher Casas
Project Name:	
Project ID #:	Tel: 406-370-4139

		VOLUME/		
SAMPLE ID#	DESCRIPTION/LOCATION	AREA	Ti li	ST.
A44 -14-0014 -07	Box not A - De Tom of Kild . Comme	100142	PLM	TEM 🔲
AHA-W-001A-03	Am oold on Top of Dests, North Rad.		PLM	TEM
AHA-W-001-01	Am ool A on Top of Dest, North Rod. Am ool - on Top of Dest, North Rod. Am ool - Topside of Casin light, Dorsh Side. Am ooob - Topside of TV In Halfford, Plum 000 B - Topside of Desk(Halking) Am 000 B - Floor South End of Hallysay		PLM	TEM
AHA-W-001-02	Am ool - Topade of Caring light, Doub Side		PLM []	TEM
AHA-W-000B-02	AM 000B- TOP Side of TV In Holly		PLM	TEM 💢
AHA-W-000B-03	Plum 000 B - Top Side Of Desk (Hallum)	<u>U</u>	PLM	TEM
AHA-W-000B-04	Rm000B- Floor South End of Hallygry		PLM	TEM
		•	PLM	TEM
			PLM	тем

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AGENDA

ASUM Child Care Parents' Meeting

January 31, 2019

5:30 - 7:00PM

The purpose of this meeting is to share information ASUM Child Care employees and with parents/families served by the child care in light of the recent relocation of the child care due to the detection on unacceptable levels of asbestos within the child care facility. There are three key objectives:

- 1. Provide background leading to the decision to relocate the child care;
- 2. Share all results of air quality and surface testing;
- 3. Provide information related to health/safety concerns and connect attendees with additional resources.

5:30-5:45	Welcome/Meeting Introductions Paula Short, UM Communications Paul Lasiter, VP Operations & Finance Alex Butler, ASUM President	UC Theater
5:45 - 6:00	Timeline/Background Kevin Krebsbach, Director of Facilities Services	UC Theater
6:00 - 6:30	Sampling/Testing/Results Bob Brownell, Northern Industrial Hygiene, Inc. Chris Casas, Gem Environmental, Inc.	UC Theater
6:30-7:00 (+/-)	Health/Safety/FAQ/Q&A Missoula County Health Department	UC Theater

Additional Instructions:

Child care is provided in UC 330 from 5p-8p