

January 31, 2019

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

CLIENT PROJECT: U of M - McGill Hall, Rm 001A, 001, 015, 19-024
LAB CODE: T190368

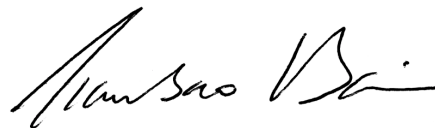
Dear Customer:

Enclosed are asbestos analysis results for TEM dust wipe samples received at our laboratory on January 30, 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
Laboratory Director

ASBESTOS ANALYTICAL REPORT
By: Transmission Electron Microscopy

Prepared for

GEM Environmental

CLIENT PROJECT: U of M - McGill Hall, Rm 001A, 001, 015, 19-024

LAB CODE: T190368

TEST METHOD: Dust Wipe
ASTM D6480-05

REPORT DATE: 01/31/19



CEI

ASBESTOS DUST ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

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

Lab Code: T190368
Date Received: 01-30-19
Date Analyzed: 01-31-19
Date Reported: 01-31-19

Project: U of M - McGill Hall, Rm 001A, 001, 015, 19-024

TEM DUST WIPE (ASTM D6480-05)

Client ID Lab ID	Area Sampled (cm ²)	Area Analyzed (mm ²)	Filtration Factor	Analytical Sensitivity (s/cm ²)	# of Structures	Asbestos Type	Concentration (s/cm ²)
AHA-W-001A -04 T92456	100	0.08	20	2,400	102	Chrysotile	240,000
AHA-W-001A -05 T92457	100	0.1	20	1,900	86	Chrysotile	170,000
AHA-W-001A -06 T92458	100	0.07	10	1,400	104	Chrysotile	140,000
AHA-W-001A -07 T92459	100	0.1	10	960	93	Chrysotile	89,000
AHA-W-001 -03 T92460	100	0.1	50	4,800	84	Chrysotile	400,000
AHA-W-001 -04 T92461	100	0.1	50	4,800	54	Chrysotile	260,000
AHA-W-001 -05 T92462	100	0.1	20	1,900	6	Chrysotile	12,000
AHA-W-001 -06 T92463	100	0.1	10	960	31	Chrysotile	30,000
AHA-W-001 -07 T92464	100	0.1	50	4,800	9	Chrysotile	43,000



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AHA-W-015 -01 T92465	100	0.1	10	960	8	Chrysotile	7,700
AHA-015B-01 T92466	100	0.1	10	960	41	Chrysotile	39,000
AHA-W-021 -01 T92467	100	0.1	10	960	1 4	Amosite Chrysotile	960 3,800
AHA-W-029 -01 T92468	100	0.1	10	960	7 1	Chrysotile Amosite	6,700 960
AHA-W-127 -01 T92469	100	0.1	10	960	4	Chrysotile	3,800
AHA-W-127 -02 T92470	100	0.1	10	960	4	Chrysotile	3,800
AHA-W-127 -03 T92471	100	0.1	10	960	21	Chrysotile	20,000
AHA-W-126 -01 T92472	100	0.1	10	960	6	Chrysotile	5,800
AHA-W-126 -02 T92473	100	0.1	10	960	6	Chrysotile	5,800



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TEM DUST WIPE (ASTM D6480-05)

Client ID Lab ID	Area Sampled (cm ²)	Area Analyzed (mm ²)	Filtration Factor	Analytical Sensitivity (s/cm ²)	# of Structures	Asbestos Type	Concentration (s/cm ²)
AHA-W-215 -01 T92474	100	0.1	20	1,900	4	Chrysotile	7,700
AHA-W-215 -02 T92475	100	0.1	20	1,900	2	Chrysotile	3,800
AHA-W-BB -01 T92476	100	0.1	10	960	0	None Detected	<960

LEGEND: None

METHOD: ASTM D6480-05

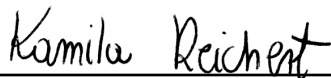
ANALYTICAL SENSITIVITY: 1,000 structures/cm²

REGULATORY LIMIT: None

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. *Estimated measurement of uncertainty is available on request.* Samples were received in acceptable condition unless otherwise noted.

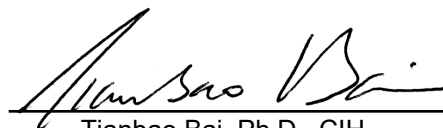
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST:



Kamila Reichert

APPROVED BY:



Tianbao Bai, Ph.D., CIH
Laboratory Director



CEI

CHAIN OF CUSTODY

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

LAB USE ONLY:
ECEI Lab Code:
ECEI Lab I.D. Range:

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: UoF M - McGill Hall, Rm 001A, 001, 015
Missoula, MT 59807	Project ID#: 19-024
Email: chris.casas@gem-environmental.com	PO #:
Tel: 406-370-4139 Fax:	STATE SAMPLES COLLECTED IN: MT

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM BULK	CARB 435	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR*	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR (PCME)	ISO 10312	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ASTM 6281-15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05 (2010)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09 (2014)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM QUALITATIVE	IN-HOUSE METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Blanks should be taken from the same sample lot as field samples.

REMARKS / SPECIAL INSTRUCTIONS: w/ Positive Stop		<input type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	01/29/19	KC	1/30/19 9:50 am

By submitting samples, you are agreeing to ECEI's Terms and Conditions.
 Samples will be disposed of 30 days after analysis



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

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME / AREA	TEST			
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
1 AHA-W-001A-04	Wipe / Boil in canner TOP SW Corner - TOP	100cm ²	PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
2 AHA-W-001A-05	Boil in canner TOP SW Corner - TOP		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
3 AHA-W-001A-06	TOP OF Cabinet along North wall, NW Corner		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
4 AHA-W-001A-07	TOP OF Refrigerator, in kitchen		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
5 AHA-W-001-03	TOP OF Cabinet along South wall - Middle		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
6 AHA-W-001-04	TOP OF Boil in shelving along West wall SW Corner		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
7 AHA-W-001-05	TOP OF Shelving along West wall, NW Corner		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
8 AHA-W-001-06	TOP OF Double Doored Refrigerator in kitchen		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
9 AHA-W-001-07	TOP OF Boil in shelving along North wall, NW Corner		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
10 AHA-W-015-01	TOP OF Feedmill Base, From Feedmill on the South Feedmill		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
11 AHA-W-015B-01	TOP OF Desk - Middle		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
12 AHA-W-021-01	TOP OF Bookcase, SW Corner of Room		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
13 AHA-W-029-01	TOP OF Cabinet along West wall, SW Corner		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
14 AHA-W-127-01	TOP OF Black speaker on East wall		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
15 AHA-W-127-02	TOP OF Black speaker on West wall		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
16 AHA-W-127-03	Back side of Computer, NE Corner		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
17 AHA-W-126-01	TOP OF Black speaker along West wall		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
18 AHA-W-126-02	TOP/Back of Computer screen, SE corner		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
19 AHA-W-215-01	FRONT FACE of Printer, NE corner on Ben		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
20 AHA-W-215-02	TOP OF Electrical Box, NE corner of Ben		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
21 AHA-W-BB-01	Blank		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>

Allie Peregoy

From: Chris Casas <chris.casas@gem-environmental.com>
Sent: Wednesday, January 30, 2019 11:27 AM
To: Allie Peregoy
Cc: Bob Brownell
Subject: RE: Edit a Report

EXTERNAL EMAIL*

Allie,

Sorry for the late reply, I was in a meeting. Having a AS at 1000 should be fine, a slightly higher AS should be fine as well.

Serial dilution will be appropriate to accommodate this job.

As for a priority list see below;

- 1) AHA-W-015-01
- 2) AHA-W-015B-01
- 3)AHA-W-021-01
- 4)AHA-W-029-01
- 5)AHA-W-127-01
- 6)AHA-W-127-02
- 7)AHA-W-127-02
- 8)AHA-W-127-03
- 9)AHA-W-126-01
- 10)AHA-W-126-02
- 11)AHA-W-215-01
- 12)AHA-W-215-02
- 13)AHA-W-001A-04

Thank you,

-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 Wed, 30 Jan 2019 08:05:46 -0700 <AlliePeregoy@eurofinsUS.com> wrote -----

Chris,