eurofins | CEI

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

eurofins | CEI

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

ASBESTOS DUST ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

eurofins | CEI

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

ASBESTOS DUST ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

eurofins | CEI

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-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

ASBESTOS DUST ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

eurofins | CEI

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-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/cm^2

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
Kamila Reichert

APPROVED BY:
Tianbao Bai, Ph.D., CIH
Laboratory Director

eurofins | 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: U of M - McGill Hall, Rm 004A, 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	☐	☐	☐	☐	☐	☐
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	☐	☐	☐	☐	☐	☐
TEM AIR	ASTM 6281-15	☐	☐	☐	☐	☐	☐
TEM BULK	CHATFIELD		☐	☐	☐	☐	☐
TEM DUST WIPE	ASTM D6480-05 (2010)	☐	☒	☐	☐	☐	☐
TEM DUST MICROVAC	ASTM D5755-09 (2014)	☐	☐	☐	☐	☐	☐
TEM SOIL	ASTM D7521-16			☐	☐	☐	☐
TEM VERMICULITE	CINCINNATI METHOD			☐	☐	☐	☐
TEM QUALITATIVE	IN-HOUSE METHOD		☐	☐	☐	☐	☐
OTHER:		☐	☐	☐	☐	☐	☐

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

REMARKS / SPECIAL INSTRUCTIONS: w/ Positive Stop

☐ Accept Samples
☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	01/29/18	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

eurofins | CEI

SAMPLING FORM

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	
1	AHA-W-001A-04	Wipe / Built In Cabinetry Top SW Corner - Top	100cm2	PLM ☐	TEM ☐
2	AHA-W-001A-05	/ Built In Countertop NW Corner - Top		PLM ☐	TEM ☐
3	AHA-W-001A-06	/ Top of Cabinetry along North Wall, NW Corner		PLM ☐	TEM ☐
4	AHA-W-001A-07	/ Top of Refridgerator, In Kitchen		PLM ☐	TEM ☐
5	AHA-W-001-03	/ Top of Cabinetry along South Wall - Middle		PLM ☐	TEM ☐
6	AHA-W-001-04	/ Top of Built In Shelving along West Wall SW Corner		PLM ☐	TEM ☐
7	AHA-W-001-05	/ Top of Shelving along West Wall, NW Corner		PLM ☐	TEM ☐
8	AHA-W-001-06	/ Top of Double Doored Refridgerator In Kitchen		PLM ☐	TEM ☐
9	AHA-W-001-07	/ Top of Built In Shelving along North Wall, NW Corner		PLM ☐	TEM ☐
10	AHA-W-015-01	/ Top of Treadmill Base, From ~~Front~~ on the South Treadmill		PLM ☐	TEM ☐
11	AHA-W-015B-01	/ Top of Desk - Middle		PLM ☐	TEM ☐
12	AHA-W-021-01	/ Top of Bookcase, SW Corner of Room		PLM ☐	TEM ☐
13	AHA-W-029-01	/ Top of Cabinetry along West Wall, SW Corner		PLM ☐	TEM ☐
14	AHA-W-127-01	/ Top of Black Speaker on East Wall		PLM ☐	TEM ☐
15	AHA-W-127-02	/ Top of Black Speaker on West Wall		PLM ☐	TEM ☐
16	AHA-W-127-03	/ Back Side of Computer, NE Corner		PLM ☐	TEM ☐
17	AHA-W-126-01	/ Top of Black Speaker along West Wall		PLM ☐	TEM ☐
18	AHA-W-126-02	/ Top / Back of Computer Screen, SE Corner		PLM ☐	TEM ☐
19	AHA-W-215-01	/ Front Face of Dishwasher, NE Corner of Room		PLM ☐	TEM ☐
20	AHA-W-215-02	/ Top of Electrical Box, NE Corner of Room		PLM ☐	TEM ☐
21	AHA-W-BB-01	Blank		PLM ☐	TEM ☐
				PLM ☐	TEM ☐
				PLM ☐	TEM ☐
				PLM ☐	TEM ☐
				PLM ☐	TEM ☐
				PLM ☐	TEM ☐
				PLM ☐	TEM ☐
				PLM ☐	TEM ☐

Don't exceed 10 client samples

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,