January 26, 2016 Pinchin File No. 02-02-01627

Department of Health and Safety
Memorial University of Newfoundland
208 Elizabeth Avenue
St. John's, NL
A1C 5S7

Attention: Barbara Battcock

Re: Airborne Fibre Monitoring, Memorial University of Newfoundland, St. John's, NL

Dear Ms. Barbara Battcock,

Memorial University (MUN) retained Pinchin Leblanc Environmental to conduct airborne fibre monitoring in various buildings located on the Memorial University of Newfoundland (MUN) campus. Sample locations were determined by referencing the previous locations identified in the 2012 annual sampling report entitles MUN Airborne Fibre Monitoring December 2012, which specified various buildings and tunnels known to contain asbestos or have contained asbestos, excluding residences. Sampling was conducted in January 2016.

1.0 BACKGROUND

The results of the airborne fibre monitoring were evaluated against the applicable occupational exposure limits outlined in the Occupational Health and Safety Regulations under the Occupational Health and Safety Act (O.C. 2012-005), Consolidated Newfoundland and Labrador Regulation 5/12. The Regulation has adopted for use, the American Conference of Governmental Industrial Hygienists (ACGIH). In the act, under the heading Hazardous Substances, in section 42 (7) sub section (c) it states that "An employer shall ensure that (c) exposure of a worker to hazardous substances is as minimal as is reasonably practicable, and where a threshold limit value has been established by the ACGIH, exposure shall not exceed the threshold limit value". The TLV-TWA for asbestos is 0.1 fibres/cc.

2.0 SAMPLE METHODOLOGY

A total of eighty-four (84) airborne fibre samples were collected at fixed locations in various areas throughout the MUN campus.

Sampling for airborne fibres was conducted by collecting a known volume of air through cellulose mixed ester filters, 0.8 micrometers pore size, held open-faced in 3-piece conductive cassettes. The filters were

25 mm in diameter. The sampling equipment used was direct flow high volume air sample pumps and BDX II low volume sampling pumps calibrated with a TSI Model 4199 flow meter instrument.

Pinchin inspectors/technicians are enrolled in the IRSST (Instituit de recherché Robert-Sauve en sante et en securite du travail), a comprehensive quality assurance programme. Each analyst/technician participates in round robin testing on a regular basis to remain certified with the association.

It should be noted that analysis of PCM air samples, where completed, is on a quantitative basis. This counting process includes all types of fibres in ambient air, which meet the analysis criteria, regardless of the type of those fibres.

3.0 SUMMARY OF DATA

The following table listing the locations and results of the airborne fibre sampling.

Should you have any questions or require additional information, please contact either of the undersigned at our office (709-754-4490).

Yours truly,

Pinchin LeBlanc Environmental Limited

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Building	Location	Date	Sample ID	Duration (min)	Flow Rate (L/min)	Volume (L)	Reported Result* (f/cc)
Health Science Centre	Outside H-1J440	January 22	01-H-02-02-1627-A001	60	15.0	900	<0.02
	Outside H-1801	January 22	02-H-02-02-1627-A002	60	15.0	900	<0.02
	Outside H-2J705	January 22	03-H-02-02-1627-A003	65	15.0	900	<0.02
	H-2C01 (Cafeteria)	January 22	04-H-02-02-1627-A004	60	15.0	900	<0.02
	Outside H-3136	January 22	05-H-02-02-1627-A005	60	15.0	900	<0.02
	H-4C01	January 22	06-H-02-02-1627-A006	65	15.0	900	<0.02
	Zone 218	January 22	07-H-02-02-1627-A007	60	15.0	900	<0.02
Spencer Hall	Outside of SP-1011	January 18	01-SP-02-02-1627-A008	60	15.0	900	<0.02
	SP-2C01	January 18	02-SP-02-02-1627-A009	60	15.0	900	<0.02
Coughlan College	CL-1011	January 21	01-CL-02-02-1627-A010	65	15.0	975	<0.02
	Outside CL-1009	January 21	02-CL-02-02-1627-A011	65	15.0	975	<0.02
Business & Administration	BN-1C02	January 20	01-BN-02-02-1627-A012	60	15.0	900	<0.02
	BN-2015	January 20	02-BN-02-02-1627-A013	60	15.0	900	<0.02
	BN-3008	January 20	03-BN-02-02-1627-A014	60	15.0	900	<0.02
	BN-4014	January 20	04-BN-02-02-1627-A015	60	15.0	900	<0.02
Field Hall	GH-1007	January 14	01-GH-02-02-1627-A016	61	15.0	915	<0.02
	GH-2013	January 14	02-GH-02-02-1627-A017	60	15.0	900	<0.02
	GH-3019	January 18	03-GH-02-02-1627-A018	60	15.0	900	<0.02
	GH-4020	January 18	04-GH-02-02-1627-A019	61	15.0	915	<0.02
Queens College	QC-2C01	January 18	01-QC-02-02-1627-A020	60	15.0	900	<0.02
	QC-1C01	January 18	02-QC-02-02-1627-A021	60	15.0	900	<0.02
	QC-3C01	January 18	03-QC-02-02-1627-A022	61	15.0	915	<0.02
	QC-4C01	January 18	04-QC-02-02-1627-A023	61	15.0	915	<0.02
Ocean Science Centre	OS-1014	January 14	01-OS-02-02-1627-A024	61	15.0	915	<0.02
Ocean Science Centre Annex	Outside AX-2002	January 14	01-AX-02-02-1627-A025	61	15.0	915	<0.02
Vivarium	V-1C01	January 26	01-AX-02-02-1627-A026	60	15.0	900	<0.02
Utilities Annex	UA-1001by Chemical Storage	January 20	01-UA-02-02-1627-A027	60	15.0	900	<0.02

Building	Location	Date	Sample ID	Duration (min)	Flow Rate (L/min)	Volume (L)	Reported Result* (f/cc)
South Campus Boiler Plant	SB-1001A	January 21	01-SB-02-02-1627-A028	60	15.0	900	<0.02
Physical Education	Outside PE-1004	January 11	01-PE-02-02-1627-A029	60	15.0	900	<0.02
	PE-2026	January 11	02-PE-02-02-1627-A030	60	15.0	900	<0.02
	PE-3C01	January 11	03-PE-02-02-1627-A031	60	15.0	900	<0.02
Facilities Management	Outside FM-2018	January 18	01-FM-02-02-1627-A032	60	15.0	900	<0.02
	FM-1017	January 18	02-FM-02-02-1627-A033	60	15.0	900	<0.02
Education	ED-2C01	January 19	01-ED-02-02-1627-A034	60	15.0	900	<0.02
	ED-3C01	January 19	02-ED-02-02-1627-A035	60	15.0	900	<0.02
	ED-4C01	January 19	03-ED-02-02-1627-A036	60	15.0	900	<0.02
	ED-1C02	January 19	04-ED-02-02-1627-A037	60	15.0	900	<0.02
Library	L-1005	January 21	01-L-02-02-1627-A038	60	15.0	900	<0.02
4 Clark Place	CK-2000	January 21	01-CK-02-02-1627-A039	60	15.0	900	<0.02
202 Elizabeth Avenue	CE-2001A	January 21	01-CE-02-02-1627-A040	60	15.0	900	<0.02
Science	Outside SN-1027	January 13	01-SN-02-02-1627-A041	60	15.0	900	<0.02
	Outside SN-1107	January 13	02-SN-02-02-1627-A042	60	15.0	900	<0.02
	Outside SN-2025	January 14	03-SN-02-02-1627-A043	60	15.0	900	<0.02
	Outside SN-2106	January 14	04-SN-02-02-1627-A044	60	15.0	900	<0.02
	Outside SN-3033	January 14	05-SN-02-02-1627-A045	60	15.0	900	<0.02
	Outside SN-3075C	January 14	06-SN-02-02-1627-A046	60	15.0	900	<0.02
	Outside SN-4020	January 14	07-SN-02-02-1627-A047	60	15.0	900	<0.02
	Outside SN-4103	January 14	08-SN-02-02-1627-A048	60	15.0	900	<0.02
Chemistry-Physics	C-1C05	January 15	01-C-02-02-1627-A049	60	15.0	900	<0.02
	C-2C04	January 15	02-C-02-02-1627-A050	60	15.0	900	<0.02
	C-3C04	January 15	03-C-02-02-1627-A051	60	15.0	900	<0.02
	C-4C04	January 15	04-C-02-02-1627-A052	60	15.0	900	<0.02
Biotechnology	BT-3S01	January 19	01-BT-02-02-1627-A053	60	15.0	900	<0.02
	BT-2S01	January 19	02-BT-02-02-1627-A054	60	15.0	900	<0.02

Building	Location	Date	Sample ID	Duration (min)	Flow Rate (L/min)	Volume (L)	Reported Result* (f/cc)
Printing Services	Outside PS-1002	January 21	01-PS-02-02-1627-A055	61	15.0	915	<0.02
Computing Services	CS-1C02	January 21	01-CS-02-02-1627-A056	60	15.0	900	<0.02
208 Elizabeth Avenue	BP-2001	January 21	01-BP-02-02-1627-A057	60	15.0	900	<0.02
6 Clark Place	Research Lab #2	January 21	01-CM-02-02-1627-A058	60	15.0	900	<0.02
Arts & Administration	Outside A-1014	January 11	01-A-02-02-1627-A059	60	15.0	900	<0.02
	Outside A-1026	January 11	02-A-02-02-1627-A060	60	15.0	900	<0.02
	Outside A-2020	January 11	03-A-02-02-1627-A061	60	15.0	900	<0.02
	Outside A-3005	January 11	04-A-02-02-1627-A062	60	15.0	900	<0.02
	Outside A-4031	January 11	05-A-02-02-1627-A063	60	15.0	900	<0.02
Dining Hall	DH-1001	January 14	01-DH-02-02-1627-A064	60	15.0	900	<0.02
	DH-2000	January 14	02-DH-02-02-1627-A065	60	15.0	900	<0.02
Engineering	EN-1027	January 20	01-EN-02-02-1627-A066	61	15.0	915	<0.02
	Outside EN-2073	January 20	02-EN-02-02-1627-A067	60	15.0	900	<0.02
	Outside EN-3025	January 20	03-EN-02-02-1627-A068	60	15.0	900	<0.02
	Outside EN-4020	January 20	04-EN-02-02-1627-A069	60	15.0	900	<0.02
Mathematics	HH-1C01	January 22	01-HH-02-02-1627-A070	60	15.0	900	<0.02
	HH-1S03 (above ceiling)	January 26	02-HH-02-02-1627-A071	225	2.0	450	<0.04
	HH-2C01	January 22	03-HH-02-02-1627-A072	60	15.0	900	<0.02
	HH-2S03 (above ceiling)	January 22	04-HH-02-02-1627-A073	180	2.5	450	<0.04
	HH-3C01	January 22	05-HH-02-02-1627-A074	60	15.0	900	<0.02
	HH-3S03 (above ceiling)	January 22	06-HH-02-02-1627-A075	180	2.5	450	<0.04
Earth Science	ER-5C01	January 21	01-ER-02-02-1627-A076	60	15.0	900	<0.02
Tunnels	Patton College Tunnel (Back)	January 25	01-T-02-02-1627-A077	225	2.0	450	<0.04
	Arts-Library Main Tunnel	January 25	02-T-02-02-1627-A078	225	2.0	450	<0.04
	Dining Hall Tunnel	January 25	03-T-02-02-1627-A079	225	2.0	450	<0.04
	Physical Education-Arts Tunnel	January 25	04-T-02-02-1627-A080	225	2.0	450	<0.04

Building	Location	Date	Sample ID	Duration (min)	Flow Rate (L/min)	Volume (L)	Reported Result* (f/cc)
	Library Tunnel	January 25	05-T-02-02-1627-A081	225	2.0	450	<0.04
	Patton College Tunnel (Main)	January 25	06-T-02-02-1627-A082	225	2.0	450	<0.04
	Science-Math Tunnel	January 25	07-T-02-02-1627-A083	225	2.0	450	<0.04
	Main Tunnel near Bruneau and Patton College	January 25	08-T-02-02-1627-A084	225	2.0	450	<0.04

* Airborne fibre calculated results less than the detection limit for the volume sampled is reported as less than the detection limit. For example, the detection limit for 360 to 449 L of air is 0.05 fibres/cc – a result below this value is reported as <0.05 fibres/cc.