December 10, 2013

Pinchin File No. 02-02-01243

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

Attention: Tina Giles Murphy

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

Dear Ms. Giles Murphy,

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 known to contain asbestos or have contained asbestos, excluding residences. Sampling was conducted in November and December of 2013.

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 seventy-nine (79) 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-1501	November 28	01-H-02-02-1243-A001	60	15.0	900	<0.00465
	Outside H-1313	November 28	02-H-02-02-1243-A002	60	15.0	900	<0.02
	Outside H-2580	November 28	03-H-02-02-1243-A003	60	15.0	900	<0.02
	Outside H-2720	November 28	04-H-02-02-1243-A004	60	15.0	900	<0.02
	Outside H-3210	November 28	05-H-02-02-1243-A005	60	15.0	900	<0.00465
	Outside H-4239	November 28	06-H-02-02-1243-A006	60	15.0	900	<0.00465
	Outside H-5239	November 28	07-H-02-02-1243-A007	60	15.0	900	<0.02
Spencer Hall	SP-1C01	November 4	01-SP-02-02-1243-A008	70	12.0	840	<0.02
	SP-4C01	November 4	02-SP-02-02-1243-A009	65	13.0	845	<0.02
St. John's College	J-2C02	November 6	01-J-02-02-1243-A010	65	13.0	845	<0.02
	J-3C02	November 6	02-J-02-02-1243-A011	65	13.0	845	<0.02
	J-4C01	November 6	03-J-02-02-1243-A012	65	13.0	845	<0.02
Coughlan College	CL-1010	November 5	01-CL-02-02-1243-A013	60	15.0	900	<0.02
	CL-2C01	November 5	02-CL-02-02-1243-A014	65	15.0	845	<0.02
Business & Administration	BN-1C01	November 7	01-BN-02-02-1243-A015	65	15.0	845	<0.02
	BN-2C01	November 7	02-BN-02-02-1243-A016	60	15.0	900	<0.02
	BN-3C01	November 7	03-BN-02-02-1243-A017	60	15.0	900	<0.02
	BN-4C01	November 7	04-BN-02-02-1243-A018	60	15.0	900	<0.02
Field Hall	GH-1V01	November 1	01-GH-02-02-1243-A019	65	13.0	845	<0.02
	GH-2C01	November 1	02-GH-02-02-1243-A020	65	13.0	845	<0.02
	GH-3C01	November 1	03-GH-02-02-1243-A021	65	13.0	845	<0.02
	GH-4C01	November 1	04-GH-02-02-1243-A022	65	13.0	845	<0.02
Queens College	QC-2C01	October 31	01-QC-02-02-1243-A023	70	12.0	840	<0.02
	QC-1C01	October 31	02-QC-02-02-1243-A024	65	13.0	845	<0.02
	QC-3C01	November 1	03-QC-02-02-1243-A025	65	13.0	845	<0.02
	QC-4C01	November 1	04-QC-02-02-1243-A026	70	12.0	840	<0.02
Ocean Science Centre	OS-2C01	November 22	01-OS-02-02-1243-A027	60	15.0	900	<0.02
Ocean Science Centre Annex	AX-3C01	November 22	01-AX-02-02-1243-A028	60	15.0	900	<0.02
Vivarium	V-1C01	December 2	01-AX-02-02-1243-A029	60	15.0	900	<0.02
Utilities Annex	UA-1001	November 28	01-UA-02-02-1243-A030	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-1002	November 28	01-SB-02-02-1243-A031	60	15.0	900	<0.00465
Physical Education	PE-1C02	November 25	01-PE-02-02-1243-A032	60	15.0	900	<0.02
	PE-3C01	November 25	02-PE-02-02-1243-A033	60	15.0	900	<0.02
	PE-4C01	November 25	03-PE-02-02-1243-A034	60	15.0	905	<0.02
Facilities Management	FM-2C02	November 25	01-FM-02-02-1243-A035	60	15.0	900	<0.02
	FM-1C04	November 25	02-FM-02-02-1243-A036	60	15.0	905	<0.02
Education	ED-2C01	November 26	01-ED-02-02-1243-A037	60	15.0	900	<0.02
	ED-3C01	November 26	02-ED-02-02-1243-A038	60	15.0	900	<0.02
	ED-4C01	November 26	03-ED-02-02-1243-A039	60	15.0	900	<0.02
	ED-1C02	November 26	04-ED-02-02-1243-A040	60	15.0	900	<0.02
Library	L-1C01	November 26	01-L-02-02-1243-A041	60	15.0	900	<0.02
4 Clark Place	CK-2000	December 2	01-CK-02-02-1243-A042	60	15.0	900	<0.02
202 Elizabeth Avenue	CE-2001	December 3	01-CE-02-02-1243-A043	60	15.0	900	<0.02
Science	SN-1C02	November 26	01-SN-02-02-1243-A044	60	15.0	900	<0.02
	SN-1C04	November 26	02-SN-02-02-1243-A045	60	15.0	900	<0.02
	SN-2C02	November 26	03-SN-02-02-1243-A046	60	15.0	900	<0.02
	SN-2C05	November 26	04-SN-02-02-1243-A047	60	15.0	900	<0.02
	SN-3C02	November 26	05-SN-02-02-1243-A048	60	15.0	900	<0.02
	SN-3C06	November 26	06-SN-02-02-1243-A049	60	15.0	900	<0.02
	SN-4C06	November 26	07-SN-02-02-1243-A050	60	15.0	900	<0.02
	SN-4C05	November 26	08-SN-02-02-1243-A051	65	15.0	900	<0.02
Chemistry-Physics	C-1C06	November 27	01-C-02-02-1243-A052	60	15.0	900	<0.02
	C-2C04	November 26	02-C-02-02-1243-A053	60	15.0	900	<0.02
	C-3C01	November 27	03-C-02-02-1243-A054	60	15.0	900	<0.00465
	C-4C01	November 27	04-C-02-02-1243-A055	60	15.0	900	<0.02
Biotechnology	BT-3S01	November 27	01-BT-02-02-1243-A056	60	15.0	900	<0.02
	BT-2S01	November 27	02-BT-02-02-1243-A057	60	15.0	905	<0.02
Printing Services	PS-1C01	November 28	01-PS-02-02-1243-A058	60	15.0	900	<0.02
Computing Services	CS-1C02	November 27	01-CS-02-02-1243-A059	60	15.0	900	<0.02
208 Elizabeth Avenue	BP-2C01	December 2	01-BP-02-02-1243-A060	60	15.0	900	<0.02

Building	Location	Date	Sample ID	Duration (min)	Flow Rate (L/min)	Volume (L)	Reported Result* (f/cc)
6 Clark Place	CM-2S01	December 2	01-CM-02-02-1243-A061	80	15.0	1200	<0.02
Arts & Administration	A-1C01	November 27	01-A-02-02-1243-A062	60	15.0	900	<0.02
	A-1C01	November 27	02-A-02-02-1243-A063	60	15.0	900	<0.02
	A-2C02	November 27	03-A-02-02-1243-A064	60	15.0	900	<0.02
	A-3C01	November 27	04-A-02-02-1243-A065	60	15.0	900	<0.02
	A-4C01	November 27	05-A-02-02-1243-A066	60	15.0	900	<0.02
Dining Hall	DH-1001	November 28	01-DH-02-02-1243-A067	60	15.0	900	<0.02
	DH-2C01	November 28	02-DH-02-02-1243-A068	60	15.0	900	<0.02
Engineering	EN-1C02	November 12	01-EN-02-02-1243-A069	60	15.0	900	<0.02
	EN-2C02	November 12	02-EN-02-02-1243-A070	60	15.0	900	<0.02
	EN-3C01	November 12	03-EN-02-02-1243-A071	60	15.0	900	<0.02
	EN-4C01	November 12	04-EN-02-02-1243-A072	60	15.0	900	<0.02
Mathematics	HH-1C01	November 27	01-HH-02-02-1243-A073	60	15.0	900	<0.02
	HH-1C01 (above ceiling)	December 3	02-HH-02-02-1243-A074	180	2.5	450	<0.04
	HH-2C01	November 27	03-HH-02-02-1243-A075	60	15.0	900	<0.02
	HH-2C01 (above ceiling)	December 3	04-HH-02-02-1243-A076	180	2.5	150	<0.04
	HH-3C01	November 27	05-HH-02-02-1243-A077	60	15.0	900	<0.02
	HH-3C03 (above ceiling)	December 3	06-HH-02-02-1243-A078	180	2.5	450	<0.04
Earth Science	ER-6C01	November 28	01-ER-02-02-1243-A079	60	15.0	900	<0.02

* 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.