



February 23, 2015

Pinchin File No. 02-02-01467

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 entitled MUN Airborne Fibre Monitoring December 2012, which specified various buildings known to contain asbestos or have contained asbestos, excluding residences. Sampling was conducted in January and February of 2015.

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 (Institut de recherche 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-1320	January 12	01-H-02-02-1467-A001	60	14.56	873.6	<0.03	
	Outside H-1618	January 12	02-H-02-02-1467-A002	60	15.0	900	<0.02	
	Outside H-23602	January 12	03-H-02-02-1467-A003	65	13.5	877.5	<0.03	
	Outside H-2803	January 12	04-H-02-02-1467-A004	60	15.04	902.4	<0.02	
	Outside H-3208	January 12	05-H-02-02-1467-A005	60	15.04	902.4	<0.02	
	Outside H-4102	January 12	06-H-02-02-1467-A006	65	13.5	877.5	<0.03	
	Outside H-5201	January 12	07-H-02-02-1467-A007	60	14.5	870	<0.03	
	SP-1C01	January 13	01-SP-02-02-1467-A008	61	15.0	915	<0.02	
	SP-4015	January 13	02-SP-02-02-1467-A009	60	15.0	900	<0.02	
	CL-1010	January 12	01-CL-02-02-1467-A010	61	15.01	915.6	<0.02	
Coughlan College	CL-1035	January 14	02-CL-02-02-1467-A011	60	15.0	900	<0.02	
	BN-1012	January 14	01-BN-02-02-1467-A012	60	15.07	904.2	<0.02	
	BN-2015	January 14	02-BN-02-02-1467-A013	62	14.74	913.88	<0.02	
	BN-3008	January 14	03-BN-02-02-1467-A014	62	14.74	913.88	<0.02	
	BN-4014B	January 14	04-BN-02-02-1467-A015	60	15.07	904.2	<0.02	
	GH-1007	January 13	01-GH-02-02-1467-A016	60	15.0	900	<0.02	
	GH-2010	January 13	02-GH-02-02-1467-A017	60	15.0	900	<0.02	
	GH-3020	January 13	03-GH-02-02-1467-A018	60	15.0	900	<0.02	
	GH-4020	January 13	04-GH-02-02-1467-A019	60	15.0	900	<0.02	
	QC-2C01	January 12	01-QC-02-02-1467-A020	60	15.04	902.4	<0.02	
Queens College	QC-1C01	January 12	02-QC-02-02-1467-A021	65	13.5	877.4	<0.03	
	QC-3C01	January 12	03-QC-02-02-1467-A022	60	14.5	870	<0.03	
	QC-4C01	January 12	04-QC-02-02-1467-A023	61	15.0	915	<0.02	
	OS-3014A	January 30	01-OS-02-02-1467-A024	63	15.01	945.63	<0.02	
	Ocean Science Centre Annex	January 30	01-AX-02-02-1467-A025	60	15.0	900	<0.02	
	Vivarium	February 5	01-AX-02-02-1467-A026	61	15.0	915	<0.02	
	Utilities Annex	February 16	01-UA-02-02-1467-A027	63	15.0	945	<0.02	
	South Campus Plant	February 3	01-SB-02-02-1467-A028	60	15.0	900	<0.02	
	Boiler	February 3	01-PE-02-02-1467-A029	62	15.0	930	<0.02	
	Physical Education	January 16	02-PE-02-02-1467-A030	61	15.01	915.61	<0.02	
Facilities Management	PE-3C01	January 16	03-PE-02-02-1467-A031	60	15.0	900	<0.02	
	Outside FM-2018	February 3	01-FM-02-02-1467-A032	60	15.0	900	<0.02	
	FM-1017	February 3	02-FM-02-02-1467-A033	60	15.0	900	<0.02	
	ED-2C01	January 16	01-ED-02-02-1467-A034	60	14.84	890.4	<0.03	
	ED-3C01	January 16	02-ED-02-02-1467-A035	60	15.03	901.8	<0.02	
	ED-4C01	January 16	03-ED-02-02-1467-A036	60	14.94	896.4	<0.03	
	Education	Outside H-1320	January 12	01-H-02-02-1467-A001	60	14.56	873.6	<0.03
		Outside H-1618	January 12	02-H-02-02-1467-A002	60	15.0	900	<0.02
		Outside H-23602	January 12	03-H-02-02-1467-A003	65	13.5	877.5	<0.03
		Outside H-2803	January 12	04-H-02-02-1467-A004	60	15.04	902.4	<0.02
Outside H-3208		January 12	05-H-02-02-1467-A005	60	15.04	902.4	<0.02	
Outside H-4102		January 12	06-H-02-02-1467-A006	65	13.5	877.5	<0.03	
Outside H-5201		January 12	07-H-02-02-1467-A007	60	14.5	870	<0.03	
SP-1C01		January 13	01-SP-02-02-1467-A008	61	15.0	915	<0.02	
SP-4015		January 13	02-SP-02-02-1467-A009	60	15.0	900	<0.02	
CL-1010		January 12	01-CL-02-02-1467-A010	61	15.01	915.6	<0.02	

Building	Location	Date	Sample ID	Duration (min)	Flow Rate (L/min)	Volume (L)	Reported Result (f/cc)
	ED-1C02	January 16	04-ED-02-02-1467-A037	60	15.03	901.8	<0.02
Library	L-1005	February 2	01-L-02-02-1467-A038	60	15.0	900	<0.02
4 Clark Place	CK-2000	January 27	01-CK-02-02-1467-A039	60	15.0	900	<0.02
202 Elizabeth Avenue	CE-1004	January 12	01-CE-02-02-1467-A040	60	15.0	900	<0.02
Science	Outside SN-1027	January 16	01-SN-02-02-1467-A041	60	15.03	901.8	<0.02
	Outside SN-1107	January 16	02-SN-02-02-1467-A042	60	14.84	890.4	<0.03
	Outside SN-2025	January 16	03-SN-02-02-1467-A043	60	14.94	896.4	<0.03
	Outside SN-2106	January 16	04-SN-02-02-1467-A044	60	15.03	901.8	<0.03
	Outside SN-3033	January 16	05-SN-02-02-1467-A045	60	14.94	896.4	<0.03
	Outside SN-3075C	January 16	06-SN-02-02-1467-A046	60	15.03	901.8	<0.02
	Outside SN-4020	January 16	07-SN-02-02-1467-A047	60	15.03	901.8	<0.02
	Outside SN-4103	January 16	08-SN-02-02-1467-A048	60	14.84	890.4	<0.03
Chemistry-Physics	C-1C05	January 29	01-C-02-02-1467-A049	60	15.0	900	<0.02
	C-2C04	January 29	02-C-02-02-1467-A050	60	15.0	900	<0.02
	C-3C04	January 29	03-C-02-02-1467-A051	60	15.0	900	<0.02
	C-4C04	January 29	04-C-02-02-1467-A052	60	15.0	900	<0.02
Biotechnology	BT-3S01	February 19	01-BT-02-02-1467-A053	60	15.0	900	<0.02
	BT-2S01	February 19	02-BT-02-02-1467-A054	60	15.0	900	<0.02
Printing Services	Outside PS-1005	January 14	01-PS-02-02-1467-A055	60	15.07	904.2	<0.02
Computing Services	CS-1C02	February 2	01-CS-02-02-1467-A056	60	15.0	900	<0.02
208 Elizabeth Avenue	BP-2000	January 12	01-BP-02-02-1467-A057	60	15.0	900	<0.02
6 Clark Place	Research Lab #2	January 27	01-CM-02-02-1467-A058	60	15.0	900	<0.02
Arts & Administration	Outside A-1014	January 16	01-A-02-02-1467-A059	60	14.94	896.4	<0.03
	Outside A-1026	January 16	02-A-02-02-1467-A060	60	15.03	901.8	<0.02
	Outside A-2020	January 16	03-A-02-02-1467-A061	60	15.03	901.8	<0.02
	Outside A-3005	January 16	04-A-02-02-1467-A062	64	14.84	949.76	<0.02
	Outside A-4029	January 16	05-A-02-02-1467-A063	60	15.03	901.8	<0.02
Dining Hall	DH-1001	January 30	01-DH-02-02-1467-A064	60	15.0	900	<0.02
	DH-2000	January 30	02-DH-02-02-1467-A065	60	15.0	900	<0.02
Engineering	EN-1035	January 13	01-EN-02-02-1467-A066	60	15.05	903.6	<0.02
	Outside EN-2007	January 13	02-EN-02-02-1467-A067	60	15.0	900	<0.02
	EN-3021	January 13	03-EN-02-02-1467-A068	60	15.02	901.2	<0.02
	EN-4020	January 13	04-EN-02-02-1467-A069	60	15.06	901.2	<0.02
Mathematics	HH-1C01	January 20	01-HH-02-02-1467-A070	60	15.0	900	<0.02
	HH-1C01 (above ceiling)	January 20	02-HH-02-02-1467-A071	180	2.5	450	<0.04
	HH-2C01	January 20	03-HH-02-02-1467-A072	60	15.0	900	<0.02
	HH-2C01 (above ceiling)	January 20	04-HH-02-02-1467-A073	180	2.5	150	<0.04

Building	Location	Date	Sample ID	Duration (min)	Flow Rate (L/min)	Volume (L)	Reported Result (f/cc)
	HH-3C01	January 20	05-HH-02-02-1467-A074	60	15.0	900	<0.02
	HH-3C03 (above ceiling)	January 20	06-HH-02-02-1467-A075	180	2.5	450	<0.04
Earth Science Tunnels	ER-5C01	February 3	01-ER-02-02-1467-A076	63	15.01	945.63	<0.02
	Patton College Tunnel (Back)	January 29	01-T-02-02-1467-A077	180	2.5	450	<0.04
	Arts-Library Main Tunnel	January 28	02-T-02-02-1467-A078	180	2.5	450	<0.04
	Dining Hall Tunnel	January 29	03-T-02-02-1467-A079	180	2.5	450	<0.04
	Physical Education-Arts Tunnel	January 29	04-T-02-02-1467-A080	180	2.5	450	<0.04
	Library Tunnel	January 29	05-T-02-02-1467-A081	180	2.5	450	<0.04
	Patton College Tunnel (Main)	January 29	06-T-02-02-1467-A082	180	2.5	450	<0.04
	Science-Math Tunnel	January 29	07-T-02-02-1467-A083	180	2.5	450	<0.04
	Main Tunnel near Bruneau and Patton College	January 28	08-T-02-02-1467-A084	180	2.5	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.