

March 29th, 2017

University of Toronto
255 McCaul Street, Level 4
Toronto, Ontario M5T 1W7

Attn: Mr. Irfan Miraj, P.Eng., MHSc.
Manager, Hazardous Construction Materials Group

Re: Results of PCM and TEM Air Monitoring Program
February 4th – March 28th, 2017
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario

1.0 INTRODUCTION

Safetech Environmental Limited (SEL) has been retained from February 4, 2017 ongoing to provide air monitoring services for the University of Toronto's Medical Sciences Building located at 1 King's College Circle, Toronto, Ontario M5S 1A8. Air sampling has been performed at the request of Mr. Irfan Miraj, Manager, Hazardous Construction Materials Group, to determine if airborne asbestos fibre concentrations are within acceptable and applicable limits. This report provides and detail of air sampling conducted from February 4, 2017 to March 28, 2017.

From February 4 to March 24, SEL has collected a total of 176 representative samples, 16 location specific samples and 11 outdoor samples:

- Representative samples refer to locations that were uniformly selected and also upon occupant request. These "building-wide" air samples provide an overview of air quality with regard to airborne fibres.
- Location samples refer to samples taken pre-and post-asbestos clean-up in locations where asbestos-containing dust (>0.5%) were present.
- Outdoor reference samples were collected because asbestos fibres are naturally occurring.

The University of Toronto also provided SEL with a record of a total of 50 ambient air samples, 38 representative samples and 6 location specific samples collected by other firms from November 25 to March 28:

- Ambient samples refer to samples taken during Type 3 abatement work in locations adjacent to work areas.

2.0 SUMMARY OF CONCLUSIONS

The Medical Sciences Building air quality is not being negatively impacted by the presence of asbestos-containing building materials existing within the building. The building is deemed to be safe for general occupancy. In addition, although construction related work is being conducted at various locations within the Medical Sciences Building it does not appear that airborne fibres are being drawn into the heating, ventilation and air conditioning systems and negatively impacting the quality of air.

SEL has based above conclusions on the facts briefly described below:

- All 176 representative samples indicate that at the time of sampling the airborne fiber concentrations were well below the TWA (time weighted average) of 0.1 fibers per cubic centimeter (f/cc), in accordance with Ontario Regulation 490/09, Designated Substances and also below 50% TWA; an action level followed by SEL.
- Of the 16 location specific samples 15 samples indicate that at the time of sampling the airborne fiber concentrations were well below the TWA (time weighted average) of 0.1f/cc, in accordance with Ontario Regulation 490/09, Designated Substances and also below 50% TWA; an action level followed by SEL. 1 sample collected inside mechanical services shaft (dated March 20, 2017) indicated that at the time of sampling airborne fiber concentrations was equal to 0.13f/cc which is above the TWA (time weighted average) of 0.1f/cc. This sample was analyzed by Transmission Electron Microscope which identified “No” asbestos fibres to be present. Out of an abundance of caution, a sample in 6334 on March 22, 2017 which was at 50% of the TWA was also analyzed by Transmission Electron Microscope and “No” asbestos fibres were present. Sample in 4302A collected on March 23, 2017 was also analyzed by Transmission Electron wMicroscope and “No” asbestos fibres were present.
- All 11 outdoor samples also indicated that at the time of sampling the airborne fiber concentrations were well below 0.1f/cc.

Sampling by Other Firms

- All 50 ambient samples indicate that at the time of sampling the airborne fiber concentrations were below 50% of the TWA (time weighted average) of 0.1 fibers per cubic centimeter (f/cc), in accordance with Ontario Regulation 490/09, Designated Substances.
- All 38 representative samples indicate that at the time of sampling the airborne fiber concentrations were below 50% of the TWA (time weighted average) of 0.1

fibers per cubic centimeter (f/cc), in accordance with Ontario Regulation 490/09, Designated Substances.

- All 6 location specific samples indicate that at the time of sampling the airborne fiber concentrations were below 50% of the TWA (time weighted average) of 0.1 fibers per cubic centimeter (f/cc), in accordance with Ontario Regulation 490/09, Designated Substances.

Please refer to Appendix A & B for detailed spread sheets of aforementioned samples. As explained in next section (3.1), other non-asbestos fibres and particles may interfere and result in higher fibre counts. Therefore the results shown in Appendix A do not reflect airborne concentrations of asbestos alone but for the purpose of this assessment, it is compared to the TWA for asbestos. Actual airborne asbestos fibre concentration may be lower than the values in Appendix A.

3.0 METHODOLOGY

3.1 Air Monitoring for Airborne Fibres

Phase contrast microscopy (PCM) air samples were retrieved within designated locations. The air samples were collected using a 25-mm three-piece filter cassettes containing a 0.8 μm cellulose ester membrane filter and equipped with a 50-mm electrically conductive extension cowl. The filter cassettes were attached to a high volume air sampling pump calibrated with a filter cassette in line to a known flow rate.

The air sampling pumps were calibrated to a flow rate of approximately 15 litres per minute. The air samples were collected using 25 mm three piece cassette with 50 mm electrically conductive extension cowl and mixed cellulose ester filter, 0.8 μm (recommended 0.45 to 1.2 in method) effective pore size, and back-up pad. The air samples were analyzed in accordance with U.S. National Institute of Occupational Safety and Health (NIOSH) Manual of Analytical Methods, Method 7400, Issue 2: Asbestos and other Fibres by PCM (August 15, 1994), using the asbestos fibre counting rules.

The quantitative working range of this method is 0.04 to 0.5 fibre/cc for a 1000 L air sample. The Limit of Detection (LOD) depends on sample volume and quantity of interfering dust, and is < 0.01 fibre/cc for atmospheres free of interferences. The method gives an index of airborne fibres. Fibres less than approximately 0.25 μm in diameter will not be detected by this method. In addition, other airborne fibres and particles that fall within the counting range criteria may act as possible interferences. Demolition and construction related work areas where high levels of dust are present might overload the membrane and/or interfere with the analysis. As required by NIOSH Method 7400, blank filters were submitted for analysis to ensure that no contamination of the filters occurred during sampling or analytical procedures. Analytical results, as reported in the result table of this report have been field blank corrected.

3.2 Transmission Electron Microscopy

Where PCM results indicate airborne fibres to be greater than 50% of the TWA, a secondary analysis of air samples was conducted using NIOSH Method 7402, Issue 2: Asbestos by TEM (August 15, 1994). This method is used to determine asbestos fibres in the optically visible range and has the ability to distinguish asbestos fibres from other types of fibres (e.g. clothing fibres). It is intended to complement the results obtained by phase contrast microscopy (NIOSH Method 7400).

In accordance with this method, a sample is analyzed at a magnification of 10,000 times. Only fibres with an aspect ratio of $>3:1$ and only those fibres greater than $5\text{ }\mu\text{m}$ in length are counted. The quantitative working range of this method is 0.04 to 0.5 fibres per cubic centimetre (f/cc) for a 1000 litre (L) air sample. The Limit of Detection (LOD) depends on sample volume and quantity of interfering dust, and is < 0.01 fibres per cubic centimetre (f/cc) for atmospheres free of interferences. Other amphibole particles that have asbestos ratios greater than 3:1 and elemental compositions similar to the asbestos minerals may interfere in the TEM analysis. Some non-amphibole minerals may give electron diffraction patterns similar to amphiboles. High concentrations of background dust may also interfere with fibre identification.

4.0 LIMITATIONS

The investigation, assessments and recommendations detailed in this report were carried out in a manner consistent with the level of care and skill normally exercised by reasonable members of the environmental and industrial hygiene consulting profession currently practicing under similar conditions in the area. Furthermore, the investigation, assessments and recommendations in this report have been made based on conditions observed at the time of the assessment and are limited to the areas investigated.


In preparing this report, Safetech Environmental Limited (SEL) relied on information supplied by others. Except as expressly set-out in this report, SEL has not made any independent verification of such information.

The analytical method used meets the requirements of O.Reg. 278/05. However, it is important to note that this method is not specific to the identification of asbestos fibres. All particles with a length greater than 5 micrometres, less than 3 micrometres in diameter and a length to diameter ratio of 3 to 1 or greater are included in the count. Fibres with diameters less than about 0.3 micrometres cannot be detected using this method regardless of length.

This report has been prepared for the sole use of the person or entity to who it is addressed. No other person or entity is entitled to use or rely upon this report without the express written consent of Safetech Environmental Limited and the person or entity to who it is addressed. Any use that a third party makes of this report, or any reliance based on conclusions and recommendations made, are the responsibility of such third parties. SEL accepts no responsibility for damages suffered by third parties as a result of actions based on this report.

Should you have any questions regarding this project, please contact our office.
Sincerely,

SAFETECH ENVIRONMENTAL LIMITED



Josh Hamilton
OH&S Technician




D. Glenn Smith, BA, CRSP, AMRT
Senior Project Manager

Appendices:

Appendix A – PCM Air Sample Spreadsheets – SEL
Appendix B – PCM Air Sample Spreadsheets – Others
Appendix C – TEM Analysis Laboratory Certificate of Analysis
Appendix D – Location Specific Technical Reports
Appendix E – Floor Plans (March 10-20, 2017)
Appendix F – Pump Calibration Sheets
Appendix G – PCM Analysis Example Calculation Sheet

Appendix A

PCM AIR SAMPLE SPREADSHEET-SEL

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 1, University of Toronto, March 24, 2017															
Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
1	1134	Classroom	Central	2017-03-230	1	15.04	15:25	16:50	85	1278	13	0.005	SC	Yes	
1	1140	Office	Central	2017-03-231	2	15.01	15:29	16:52	93	1397	6.5	0.002	SC	Yes	
1	1144	Classroom	Central	2017-03-232	3	15	15:34	16:58	84	1260	7	0.003	SC	Yes	
1	1146	Boardroom	Central	2017-03-233	4	15.06	15:38	17:00	82	1235	3	0.001	SC	Yes	
1	1105	Dissection	Central	2017-03-234	8	15.01	15:47	17:06	79	1186	5	0.002	SC	Yes	
1	1106	Conference Room	Central	2017-03-235	5	15.03	16:19	17:45	86	1293	9	0.003	SC	Yes	
1	1114	Prosection	Central	2017-03-236	9	15.02	16:38	17:50	72	1081	5	0.004	SC	Yes	
1	1162	Dissection	Central	2017-03-237	10	15.03	16:46	17:58	72	1082	6	0.004	SC	Yes	
	Exterior Control	Outdoors	Outside Medical Sciences Building	2017-03-239	4	15.06	18:15	19:25	70	1054	41	0.018	SC	NA	Exterior sample for comparison.
1	Field Blank	NA	NA	2017-03-240	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
1	Field Blank	NA	NA	2017-03-241	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
<div><div><div>Safetech Environmental Limited 3045 Southcreek Road, #14 Mississauga, Ontario L4X 2X7 Tel: 905 624-2722 www.safetechenv.com</div><div><div>Interpretation of Results</div><div>1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc. 2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.</div></div><div></div></div></div>															

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 7th Floor (Rush), University of Toronto, March 24, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
7	7366	Lab	Central	2017-03-224	2	15.02	9:17	10:36	79	1187	35.5	0.014	JG	Yes	
6	Field Blank	NA	NA	2017-03-228	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-229	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation
490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how
it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 6th Floor (Rush), University of Toronto, March 24, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
7	6357	Lab	Central	2017-03-223	1	15.04	9:05	10:30	85	1278	35	0.013	JG	Yes	
6	Field Blank	NA	NA	2017-03-228	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-229	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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2) For each area tested compare the "Results f/cc" column to your area and how
it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 3rd Floor (Rush), University of Toronto, March 24, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
3	3305	Lab	Central	2017-03-225	3	15	9:35	11:06	91	1365	16.5	0.006	JG	Yes	
3	3213	Office	Central	2017-03-226	4	15.06	9:45	11:09	84	1265	31	0.012	JG	Yes	
3	3215	Office	Central	2017-03-227	5	15.03	10:04	11:15	71	1067	20	0.009	JG	Yes	
6	Field Blank	NA	NA	2017-03-228	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-229	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 7th Floor, University of Toronto, March 23, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
7	7366A	Office	Central	2017-03-216	5	15.1	12:40	14:00	80	1208	74.5	0.03	JG	Yes	
7	7366B	Office	Central	2017-03-217	8	15.06	12:45	14:06	81	1220	42	0.017	JG	Yes	
7	7368	Lab	Central	2017-03-218	9	15	12:52	14:20	88	1320	55	0.02	JG	Yes	
	Exterior Control	Outdoors	Outside Medical Sciences Buiulding	2017-03-220	1	15.03	14:51	16:08	77	1157	15	0.006	JG	Yes	Exterior sample for comparison.
6	Field Blank	NA	NA	2017-03-221	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-222	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 6th Floor, University of Toronto, March 23, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
6	6356	Lab	Southeast	2017-03-219	10	15	13:09	14:28	79	1185	18	0.007	JG	Yes	
	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-220	1	15.03	14:51	16:08	77	1157	15	0.006	JG	Yes	Exterior sample for comparison.
6	Field Blank	NA	NA	2017-03-221	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-222	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 4th Floor, University of Toronto, March 23, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
4	4206	Lab	Northeast	2017-03-214	3	15	12:01	13:41	100	1500	13	0.004	JG	Yes	
4	4302A	Office	Central	2017-03-215	4	15.12	12:11	13:50	99	1497	65	0.021	JG	Yes	
	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-220	1	15.03	14:51	16:08	77	1157	15	0.006	JG	Yes	Exterior sample for comparison.
6	Field Blank	NA	NA	2017-03-221	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-222	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 3rd Floor, University of Toronto, March 23, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
3	3277	Dark Room	Central	2017-03-212	1	15.03	11:39	13:31	112	1683	21	0.006	JG	Yes	
3	3260	Lab	Central	2017-03-213	2	14.94	11:51	13:34	103	1539	24	0.007	JG	Yes	
	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-220	1	15.03	14:51	16:08	77	1157	15	0.006	JG	Yes	Exterior sample for comparison.
6	Field Blank	NA	NA	2017-03-221	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-222	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 9th Floor Mechanical Room, University of Toronto, March 22, 2017															
Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
9		9th Floor is mechanical room	East Central	2017-03-199	9	15.02	14:40	16:16	96	1442	7.5	0.002	JC	Yes	
9		9th Floor is mechanical room	Southeast	2017-03-200	10	15	14:45	16:19	94	1410	21.5	0.007	JC	Yes	
9		9th Floor is mechanical room	Northeast	2017-03-201	6	14.13	14:53	16:58	125	1766	10	0.002	JC	Yes	
9		9th Floor is mechanical room	East Central	2017-03-202	5	15.02	14:58	17:05	127	1908	30	0.007	JC	Yes	
9		9th Floor is mechanical room	Central	2017-03-203	1	15.01	15:12	17:15	123	1846	10.5	0.002	JC	Yes	
9		9th Floor is mechanical room	North Central	2017-03-204	2	15.04	15:18	17:19	121	1820	13	0.003	JC	Yes	
9		9th Floor is mechanical room	South Central	2017-03-205	3	15.02	15:23	17:17	114	1712	18	0.005	JC	Yes	
9		9th Floor is mechanical room	Northwest	2017-03-206	4	15	15:40	17:30	110	1650	18	0.005	JC	Yes	
9		9th Floor is mechanical room	West Central	2017-03-207	7	14.46	15:45	17:35	110	1591	18.5	0.005	JC	Yes	
9		9th Floor is mechanical room	South Central	2017-03-208	8	15.01	15:48	17:32	104	1561	21.5	0.006	JC	Yes	
NA	Exterior Control	Outdoors	Outside Medical Sciences Building	2017-03-209	10	15.03	16:32	17:44	72	1082	3	0.001	JC	Yes	Exterior sample for comparison.
NA	Field Blank	NA	NA	2017-03-210	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	Field Blank	NA	NA	2017-03-211	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
<div><div><div>Safetech Environmental Limited 3045 Southcreek Road, #14 Mississauga, Ontario L4X 2X7 Tel: 905 624-2722 www.safetechenv.com</div><div><div><div>Interpretation of Results</div><div>1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc. 2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.</div></div></div><div></div></div></div>															

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 7th Floor, University of Toronto, March 22, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
7	7336	Lab Under Construction	Northeast	2017-03-197	3	15.02	11:57	13:58	121	1817	18	0.004	JC	Yes	Construction Area. High Particulate
7	7368	Lab	Central	2017-03-198	4	15	12:06	13:54	108	1620	34	0.009	JC	Yes	
NA	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-209	10	15.03	16:32	17:44	72	1082	3	0.001	JC	Yes	Exterior sample for comparison.
NA	Field Blank	NA	NA	2017-03-210	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	Field Blank	NA	NA	2017-03-211	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 6th Floor 6334, University of Toronto, March 22, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
6	6334	Lab	Central	2017-03-196	1	15.01	11:03	13:22	139	2086	100	0.05	JG	Yes	
NA	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-209	10	15.03	16:32	17:44	72	1082	3	0.001	JC	Yes	Exterior sample for comparison.
NA	Field Blank	NA	NA	2017-03-210	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	Field Blank	NA	NA	2017-03-211	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, 6th Floor 6334, University of Toronto, March 22, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
6	6334	Lab	Central	2017-03-196	1	15.01	11:03	13:22	139	2086	100	0.05	JG	Yes	Phase Contrast Microscopy Analysis
												<0.0013	EMSL Lab	Yes	Transmission Electron Microscopy Analysis. Airborne fibre concentration below the limit of detection. No asbestos fibres detected in sample.
NA	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-209	10	15.03	16:32	17:44	72	1082	3	0.001	JC	Yes	Exterior sample for comparison.
NA	Field Blank	NA	NA	2017-03-210	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	Field Blank	NA	NA	2017-03-211	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.


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Interpretation of Results

- 1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.
- 2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.
- 3) Transmission Electron Microscopy Analysis as per NISOH Method 7402

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 8 (Mechanical Room), University of Toronto, March 21, 2017													
Floor	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
8	Northeast	2017-03-168	1	15.03	10:39	12:23	104	1563	18	0.006	JC	Yes	
8	East	2017-03-169	2	15.03	10:45	12:26	101	1518	12	0.004	JC	Yes	
8	Southeast	2017-03-170	3	15	10:50	12:34	104	1560	17.5	0.005	JC	Yes	
8	East Central	2017-03-171	4	15.01	10:53	12:31	98	1471	8	0.003	JC	Yes	
8	Central	2017-03-172	5	15.05	11:13	13:28	135	2032	15	0.004	JC	Yes	
8	North Central	2017-03-173	6	14.09	11:17	13:33	136	1916	16	0.004	JC	Yes	
8	South Central	2017-03-174	7	14.52	11:22	13:30	128	1859	21.5	0.006	JC	Yes	
8	Southwest	2017-02-175	8	15.03	11:34	14:33	119	1789	32.5	0.009	JC	Yes	
8	West Central	2017-03-176	9	15	11:38	14:36	178	2670	41	0.007	JC	Yes	
8	Northwest	2017-03-177	10	15.06	11:44	14:41	177	2666	19	0.003	JC	Yes	
NA	Outside Medical Sciences Buiilding	2017-03-191	2	15.03	17:12	18:19	67	1007	2	0.001	JC	Yes	Exterior sample for comparison.
NA	NA	2017-03-192	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	NA	2017-03-193	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
<div><div><div>Safetech Environmental Limtied 3045 Southcreek Road, #14 Mississauga, Ontario L4X 2X7 Tel: 905 624-2722 www.safetechenv.com</div><div><u>Interpretation of Results</u> 1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc. 2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.</div></div></div>													
<div><div></div></div>													

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 3 (Part 2), University of Toronto, March 21, 2017															
Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
3	3341	Lab	Central	2017-03-178	1	15.03	12:46	15:25	159	2390	31	0.006	JC	Yes	Lab animals present.
3	3342	Lab	Central	2017-03-179	3	15	12:54	15:51	177	2655	9	0.002	JC	Yes	
3	3344	Lab	Northeast	2017-03-180	4	15.01	13:02	15:34	152	2282	10	0.002	JC	Yes	
3	3360	Lab	Central	2017-03-181	2	15.03	13:20	15:40	140	2104	16	0.004	JC	Yes	
3	3305D	Office	Central	2017-03-182	7	14.52	13:56	15:47	111	1612	9	0.003	JC	Yes	
3	3232	Lab	Northeast	2017-03-183	5	15.05	14:13	15:51	98	1475	15	0.005	JC	Yes	
3	3366	Lab	Northeast	2017-03-184	8	15	15:10	16:17	67	1005	16.5	0.008	JC	Yes	
3	3240	Lab	Central	2017-03-185	1	15.03	14:25	16:09	104	1563	6	0.002	JC	Yes	
NA	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-191	2	15.03	17:12	18:19	67	1007	2	0.001	JC	Yes	Exterior sample for comparison.
NA	Field Blank	NA	NA	2017-03-194	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
N A	Field Blank	NA	NA	2017-03-195	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
<div><div><div>Safetech Environmental Limited 3045 Southcreek Road, #14 Mississauga, Ontario L4X 2X7 Tel: 905 624-2722 www.safetechenv.com</div><div><div>Interpretation of Results</div><div>1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc. 2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.</div></div><div></div></div></div>															

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 6, University of Toronto, March 20, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
6	6334c	Mechanical Riser	Central	2017-03-167	4	15.01	12:33	13:53	80	1201	100	0.13	JC	No	Phase Contrast Microscopy Analysis
												<0.0022	EMSL Lab	Yes	Transmission Electron Microscopy Analysis. Airborne fibre concentration below the limit of detection. No asbestos fibres detected in sample.
NA	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-161	8	15.08	14:11	15:40	89	1342	3	0.001	JC	Yes	Exterior sample for comparison.
NA	Field blank	NA	NA	2017-03-162	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	Field Blank	NA	NA	2017-03-163	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	Field Blank	NA	NA	2017-03-164	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
NA	Field Blank	NA	NA	2017-03-165	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

- 1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.
- 2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.
- 3) Transmission Electron Microscopy Analysis as per NISOH Method 7402

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 5, University of Toronto, March 20, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
5	5234	Elevator Lobby	Central	2017-03-142	1	15.03	10:44	11:52	68	1022	13	0.006	JC	Yes	High traffic area.
5	5235	Men's Washroom	Central	2017-03-143	2	15	10:53	12:00	67	1005	20.5	0.01	JC	Yes	High traffic area.
5	5302	Lab	Central	2017-03-144	3	15.03	11:01	12:12	71	1067	17.5	0.008	JC	Yes	
5	5306	Lab	Central	2017-03-145	4	15.01	11:05	12:15	70	1051	11.5	0.005	JC	Yes	Vacant
5	5322K	Hallway	Central	2017-03-146	5	15.05	11:10	12:57	107	1610	17	0.005	JC	Yes	
5	5222K	Hallway	Central	2017-03-147	6	14.13	11:15	13:00	105	1484	16.5	0.005	JC	Yes	
5	5316	Lab	Central	2017-03-148	7	14.47	11:23	13:17	114	1650	64.5	0.019	JC	Yes	
5	5318	Lab	Central	2017-02-149	8	15	11:26	13:14	108	1620	30	0.009	JC	Yes	
5	5334	Lab	Central	2017-03-150	9	15.06	11:33	13:34	121	1822	12	0.003	JC	Yes	
5	5348K	Hallway	Central	2017-03-151	10	15.03	11:36	13:39	123	1849	14.5	0.004	JC	Yes	
5	5342	Lab	Central	2017-03-152	1	15.03	12:06	14:43	157	2360	16.5	0.003	JC	Yes	
5	5350K	Hallway	Central	2017-03-153	2	15	12:10	14:46	156	2340	22	0.005	JC	Yes	
5	5360	Lab	Central	2017-03-154	5	15.05	13:07	14:49	102	1535	14	0.004	JC	Yes	Vacant
5	5368	Lab	Central	2017-03-155	6	14.13	13:11	14:51	100	1413	14	0.005	JC	Yes	
5	5369K	Hallway	Central	2017-03-156	7	14.47	13:27	14:57	90	1302	12	0.004	JC	Yes	
5	5271K	Hallway	Central	2017-03-157	8	15	13:31	15:00	89	1335	19	0.007	JC	Yes	

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 5, University of Toronto, March 20, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
5	5218	Lab	Central	2017-03-158	10	15.03	13:43	15:06	83	1247	8	0.003	JC	Yes	Vacant
5	5202	Lab	Central	2017-03-159	9	15.06	13:48	15:08	80	1205	10	0.004	JC	Yes	Vacant
5	5363	Office	Central	2017-03-160	3	15.03	14:11	15:18	67	1007	12	0.006	JC	Yes	
5	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-161	8	15.08		15:40	89	1342	3	0.001	JC	Yes	Exterior sample for comparison.
5	Field blank	NA	NA	2017-03-162	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
5	Field Blank	NA	NA	2017-03-163	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
5	Field Blank	NA	NA	2017-03-164	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
5	Field Blank	NA	NA	2017-03-165	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 2, University of Toronto, March 17, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
2	2124	Office	Central	2017-03-0119	1	15.03	11:11	12:59	108	1623	20	0.006	JC	Yes	
2	2130V	Hallway	Central	2017-03-120	2	15.02	11:17	13:02	105	1577	51	0.016	JG	Yes	High Traffic Area
2	2122K	Hallway	Central	2017-03-121	3	15.02	11:29	13:07	98	1472	22	0.007	JG	Yes	High Traffic Area
2	2317	Conference Room	Central	2017-03-122	4	15.03	11:37	13:10	93	1398	9	0.003	JG	Yes	
2	2325K	Hallway	Central	2017-03-123	5	15.05	11:46	13:53	127	1911	32.5	0.008	JG	Yes	High Traffic Area
2	2306	Office	Central	2017-03-124	6	14.08	11:53	13:54	121	1704	20	0.006	JC	Yes	
2	2322	Lunch Room	Central	2017-03-125	7	14.5	12:08	14:04	116	1682	27	0.008	JC	Yes	
2	2302	Conference Room	Central	2017-03-126	8	15.03	12:18	14:08	110	1653	13.5	0.004	JC	Yes	
2	2128V	Hallway	Central	2017-03-127	9	15.03	12:25	14:47	142	2134	38.5	0.009	JG	Yes	High Traffic Area
2	2328G	Men's washrrom	Central	2017-03-128	10	15.01	12:32	14:49	137	2056	36	0.008	JG	Yes	
2	2138K	Hallway	Central	2017-03-129	1	15.03	13:23	15:51	148	2224	28.5	0.006	JC	Yes	High Traffic Area
2	2360K	Hallway	Central	2017-03-130	3	15.02	13:59	15:37	98	1472	9	0.003	JC	Yes	High Traffic Area
2	2384K	Hallway	Central	2017-03-131	4	15.03	13:49	15:45	116	1743	21.5	0.006	JC	Yes	High Traffic Area
2	2375K	Hallway	Central	2017-03-132	5	15.05	14:21	15:50	89	1339	40.5	0.015	JG	Yes	High Traffic Area
2	2175K	Hallway	Central	2017-03-133	6	14.08	14:27	15:52	85	1197	15.5	0.006	JC	Yes	High Traffic Area

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 2, University of Toronto, March 17, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
2	2284K	Hallway	Central	2017-03-134	7	14.5	14:34	16:02	88	1276	19.5	0.007	JC	Yes	High Traffic Area
2	2386K	Hallway	Central	2017-03-135	8	15.03	14:42	16:05	83	1247	21	0.008	JC	Yes	High Traffic Area
2	2328W	Student Commons	Central	2017-03-136	9	15.03	15:01	16:10	69	1037	19	0.009	JC	Yes	High Traffic Area
2	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-137	10	15.01	15:05	16:22	77	1156	2	0.001	JC	Yes	Exterior sample for comparison.
2	Field blank	NA	NA	2017-03-138	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
2	Field Blank	NA	NA	2017-03-139	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
2	Field Blank	NA	NA	2017-03-140	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
2	Field Blank	NA	NA	2017-03-141	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

- 1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.
- 2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 3, University of Toronto, March 16, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
3	3234	Elevator Lobby	Central	2017-03-096	1	15.03	10:22	12:08	106	1593	24	0.007	JC	Yes	High traffic area.
3	3302	Lab	Central	2017-03-097	3	15.05	10:45	12:34	109	1640	8	0.002	JC	Yes	
3	3308	Lab	Central	2017-03-098	4	14.92	10:56	12:37	101	1507	12	0.004	JC	Yes	
3	3318	Lab	Central	2017-03-099	5	14.97	11:03	12:43	100	1497	11	0.004	JC	Yes	
3	3320K	Hallway	Central	2017-03-100	6	14.04	11:10	12:46	96	1348	19	0.007	JC	Yes	High traffic area.
3	3348K	Hallway	Central	2017-03-101	7	14.46	11:18	13:29	131	1894	9.5	0.002	JC	Yes	High traffic area.
3	3336	Lab	Central	2017-03-102	8	15.06	11:25	13:31	126	1898	4.5	0.001	JC	Yes	
3	3324K	Hallway	Central	2017-02-103	9	15.04	11:33	14:06	153	2301	8.5	0.003	JC	Yes	High traffic area.
3	3323A	Hallway	Central	2017-03-104	10	14.96	11:39	14:09	150	2244	3	0.001	SC	Yes	High traffic area.
3	3239K	Hallway	Central	2017-03-105	1	15.03	12:22	14:42	140	2105	10	0.002	SC	Yes	High traffic area.
3	3350K	Hallway	Central	2017-03-106	2	15.04	12:30	14:43	133	2000	8	0.002	SC	Yes	High traffic area.
3	3305	Lab	Central	2017-03-107	5	14.97	13:01	14:54	113	1692	11	0.003	SC	Yes	
3	3317	Lab	Central	2017-03-108	6	14.04	13:07	14:50	103	1446	7	0.002	SC	Yes	
3	3342	Lab	Central	2017-03-109	3	15.03	13:16	15:00	104	1563	13	0.004	SC	Yes	
3	3344	Lab	Central	2017-03-110	4	14.92	13:25	15:02	97	1447	8.5	0.003	SC	Yes	

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 3, University of Toronto, March 16, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
3	3360	Lab	Central	2017-03-111	7	14.46	13:53	15:13	80	1157	9.5	0.004	SC	Yes	
3	3366	Lab	Central	2017-03-112	8	15.06	13:58	15:09	71	1069	8.5	0.004	SC	Yes	
3	3369K	Hallway	Central	2017-03-113	9	15.04	14:08	15:21	73	1098	12	0.005	SC	Yes	High traffic area.
4	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-114	8	15.08	14:11	15:40	89	1342	2	0.001	SC	Yes	Exterior sample for comparison.
3	Field blank	NA	NA	2017-03-115	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
3	Field Blank	NA	NA	2017-03-116	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
3	Field Blank	NA	NA	2017-03-117	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
3	Field Blank	NA	NA	2017-03-118	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

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2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 4, University of Toronto, March 15, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
4	4234	Elevator Lobby	Central	2017-03-072	1	15.11	10:27	12:11	104	1571	3	0.001		Yes	High traffic area.
4	4235	Men's Washroom	Central	2017-03-073	2	15.06	10:32	12:13	101	1521	6	0.002		Yes	
4	4344	Lab	Central	2017-03-074	5	15.05	10:48	12:34	106	1595	5	0.002		Yes	
4	4342	Lab	Central	2017-03-075	6	14.03	10:53	12:38	105	1473	5	0.002		Yes	
4	4334	Lab	Central	2017-03-076	3	15.02	11:02	13:03	121	1817	18	0.005		Yes	
4	4326	Lab	Central	2017-03-077	4	14.97	11:12	12:59	107	1602	4	0.001		Yes	
4	4318	Lab	Central	2017-03-078	9	15.06	11:25	13:28	123	1852	4	0.001		Yes	
4	4316	Lab	Central	2017-02-079	10	15.01	11:30	13:25	115	1726	6	0.002		Yes	
4	4308	Lab	Central	2017-03-080	7	14.56	11:38	13:51	133	1936	12	0.003		Yes	
4	4306	Lab	Central	2017-03-081	8	15.08	11:45	13:47	122	1840	4	0.001		Yes	
4	4302	Lab	Central	2017-03-082	1	15.11	12:24	14:28	124	1874	8	0.002		Yes	
4	4323A	Hallway	Central	2017-03-083	2	15.06	12:30	14:33	123	1852	3	0.001		Yes	High traffic area.
4	4366	Lab	Central	2017-03-084	5	15.05	12:49	14:37	108	1625	6	0.002		Yes	Vacant
4	4368	Lab	Central	2017-03-085	6	14.03	12:51	14:42	111	1557	5	0.002		Yes	
4	4369K	Hallway	Central	2017-03-086	3	15.02	13:14	14:48	94	1412	19	0.006		Yes	High traffic area.
4	4255K	Hallway	Central	2017-03-087	4	14.97	13:21	14:51	90	1347	11	0.004		Yes	High traffic area.

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 4, University of Toronto, March 15, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
4	4322K	Hallway	Central	2017-03-088	9	15.06	13:34	14:57	83	1250	4	0.002		Yes	High traffic area.
4	4309	Lab	Central	2017-03-089	10	15.01	13:41	14:57	86	1291	3	0.001		Yes	
4	4374K	Hallway	Central	2017-03-090	7	14.56	14:05	15:22	77	1121	14	0.006		Yes	High traffic area.
4	Exterior Control	Outdoors	Outside Medical Sciences Building	2017-03-091	8	15.08	14:11	15:40	89	1342	3	0.001		Yes	Exterior sample for comparison.
4	Field blank	NA	NA	2017-03-092	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
4	Field Blank	NA	NA	2017-03-093	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
4	Field Blank	NA	NA	2017-03-094	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
4	Field Blank	NA	NA	2017-03-095	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.

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Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 1, University of Toronto, March 14, 2017															
Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
1	1123	Vacant	Central	2017-03-048	1	15.03	10:28	12:21	113	1698	24	0.007	SC/GS	Yes	Next to construction site. Increased particulate loading on sample.
1	1105K	Hallway	Central	2017-03-049	2	15.01	10:35	12:13	98	1471	8.5	0.003	SC/GS	Yes	High traffic area. Moderate particulate loading on sample.
1	1106	Conference Room	Central	2017-03-050	3	14.96	10:39	12:27	108	1616	30	0.009	SC/GS	Yes	Moderate particulate loading on sample.
1	1132	Office	Central	2017-03-051	4	15.01	10:51	12:30	101	1516	3	0.001	SC/GS	Yes	
1	1137K	Hallway	Central	2017-03-052	5	15.02	11:05	12:41	96	1442	20	0.007	SC/GS	Yes	High traffic area. Moderate particulate loading on sample.
1	1146	Conference Room	Central	2017-03-053	6	13.79	11:11	12:43	92	1269	36.5	0.014	SC/GS	Yes	
1	1164	Dissection Room	Central	2017-03-054	7	14.56	11:21	12:52	91	1325	3	0.001	SC/GS	Yes	
1	1182K	Hallway	Central	2017-02-055	8	15	11:26	12:55	89	1335	13	0.005	SC/GS	Yes	High traffic area-increased particulate loading on sample.
1	1130K	Hallway	Central	2017-03-056	9	15.04	11:38	13:24	106	1594	11.5	0.003	SC/GS	Yes	High traffic area-increased particulate loading on sample.
1	1240	Office	Central	2017-03-057	10	15.04	11:51	13:26	95	1428	4	0.001	SC/GS	Yes	
6	1147	Men's Bathroom	Central	2017-03-058	8	15	13:12	14:22	119	1785	13.5	0.004	SC/GS	Yes	Next to construction site. Increased particulate loading on sample.
6	1232	Elevator Lobby	Central	2017-03-059	7	14.56	13:21	15:03	103	1500	9	0.003	SC/GS	Yes	High traffic area. Moderate particulate loading on sample.
6	1245K	Hallway	Central	2017-03-060	1	15.03	13:44	15:30	106	1593	7	0.002	SC/GS	Yes	High traffic area.
6	1378K	Hallway	Central	2017-03-061	2	15.01	13:50	15:32	102	1531	6	0.002	SC/GS	High traffic area.	High traffic area.
6	1370S	Hallway	Central	2017-03-062	3	14.96	13:56	15:39	103	1456	2.5	0.001	SC/GS	Yes	High traffic area.
6	1279C	Lab	Central	2017-03-063	4	15.01	14:05	15:41	96	1441	2	0.001	SC/GS	Yes	

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 1, University of Toronto, March 14, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
6	1370K	Hallway	Central	2017-03-064	5	15.02	14:11	15:43	92	1382	5	0.002	SC/GS	Yes	High traffic area.
6	1381K	Hallway	Central	2017-03-065	6	13.79	14:22	15:46	84	1158	2.5	0.001	SC/GS	Yes	High traffic area.
6	1356	Classroom	Central	2017-03-066	9	15.04	14:30	15:56	86	1293	3	0.001	SC/GS	Yes	
6	Exterior Control	Outdoors	Outside Medical Sciences Building	2017-03-067	10	15.04	14:40	16:30	110	1654	3	0.001	SC/GS	Yes	Exterior sample for comparison.
6	Field blank	NA	NA	2017-03-068	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-069	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
	Field Blank	NA	NA	2017-03-070	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
	Field Blank	NA	NA	2017-03-071	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 7, University of Toronto, March 13, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
7	7326	Lab	Central	2017-03-024	1	15.03	10:27	12:13	106	1593	13.5	0.004	SC/GS	Yes	
7	7342	Lab	Central	2017-03-025	2	15.01	10:43	12:18	105	1576	2.5	0.001	SC/GS	Yes	
7	7344	Lab	Central	2017-03-026	3	15.01	10:56	12:36	100	1501	3.5	0.001	SC/GS	Yes	
7	7345	Lab	Central	2017-03-027	4	15.01	11:02	12:41	99	1486	2.5	0.001	SC/GS	Yes	
7	7358	Lab	Central	2017-03-028	5	15	11:16	13:12	116	1740	3	0.001	SC/GS	Yes	
7	7374K	Hallway	Central	2017-03-029	6	15	11:23	13:14	111	1665	3	0.001	SC/GS	Yes	High traffic area.
7	7239K	Hallway	Central	2017-03-030	7	14.76	11:34	13:37	123	1815	2.5	0.001	SC/GS	Yes	High traffic area.
7	7256	Lab	Central	2017-03-031	8	14.99	11:40	13:38	118	1769	2	0.001	SC/GS	Yes	
7	7259	Instrument Room	Central	2017-03-032	9	14.99	11:49	14:03	134	2009	2	0.001	SC/GS	Yes	
7	7271	Student Room	Central	2017-03-033	10	15	11:53	14:06	133	1995	5	0.001	SC/GS	Yes	
7	7235	Men's Bathroom	Central	2017-03-034	1	15.03	12:23	14:12	109	1638	9.5	0.003	SC/GS	Yes	High traffic Area.
7	7231	Conference Room	Central	2017-03-035	2	15.01	12:36	14:40	124	1861	1.5	0.001	SC/GS	Yes	
7	7214	Lab	Central	2017-03-036	3	15.01	12:50	14:45	115	1726	2	0.001	SC/GS	Yes	
7	7217	Student Room	Central	2017-03-037	4	15.01	12:55	14:49	114	1711	7.5	0.002	SC/GS	Yes	High traffic Area.
7	7207	Office	Central	2017-03-038	5	15	13:27	14:53	86	1290	3.5	0.001	SC/GS	Yes	
7	7202	Lab	Central	2017-03-039	6	15	13:32	14:56	84	1260	3	0.001	SC/GS	Yes	

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 7, University of Toronto, March 13, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
7	7307	Lab	Central	2017-03-040	7	14.76	13:53	15:02	69	1018	3	0.001	SC/GS	Yes	
7	7308	Lab	Central	2017-03-041	8	14.99	13:59	15:09	70	1049	2	0.001	SC/GS	Yes	
7	7234	Elevator Lobby	C	2017-03-042	1	15.03	14:15	15:24	69	1037	5	0.002	SC/GS	Yes	High traffic Area.
7	Exterior	Control Sample	NA	2017-03-043	9	14.99	14:23	15:30	67	1004	2	0.001	SC/GS	Yes	For comparison purposes.
7	Blank	NA	NA	2017-03-044	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
7	Blank	NA	NA	2017-03-045	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
7	Blank	NA	NA	2017-03-046	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
7	Blank	NA	NA	2017-03-047	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results
1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.



Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 6, University of Toronto, March 10, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
6	6336	Lab	South	2017-03-001	9	15	9:47	11:19	92	1380	5.5	0.002	SC/GS	Yes	
6	6342	Lab	Central	2017-03-002	10	15	9:48	11:05	77	1155	2	0.001	SC/GS	Yes	
6	6344	Lab	South	2017-03-003	5	15.01	9:45	11:10	85	1276	2	0.001	SC/GS	Yes	
6	6234	Elevator Lobby	Central	2017-03-004	3	15	9:52	11:18	86	1290	7.5	0.003	SC/GS	Yes	High traffic area.
6	6326	Lab	Central	2017-03-005	4	15.02	9:57	11:24	87	1307	3	0.001	SC/GS	Yes	
6	6218	Lab	Central	2017-03-006	6	14.97	10:08	11:40	92	1377	3.5	0.001	SC/GS	Yes	
6	6209	Office	South	2017-03-007	7	14.8	10:15	11:49	94	1391	4	0.001	SC/GS	Yes	
6	6221K	Hallway	Central	2017-02-008	2	15.03	10:16	11:50	94	1413	12	0.004	SC/GS	Yes	High traffic area.
6	6205	Student Room	Central	2017-03-009	1	15	10:21	11:52	91	1365	4	0.001	SC/GS	Yes	
6	6230	Lab	Central	2017-03-010	8	14.78	10:21	12:07	105	1552	2.5	0.001	SC/GS	Yes	
6	6345B	Student Room	Central	2017-03-011	7	14.8	12:19	14:22	123	1820	9	0.002	SC/GS	Yes	
6	6374K	Hallway	Central	2017-03-012	1	14.99	12:35	14:26	111	1664	2.5	0.001	SC/GS	Yes	
6	6270	Lab	Central	2017-03-013	2	15.03	12:43	14:30	107	1608	3.5	0.001	SC/GS	Yes	
6	6254	Lab	Central	2017-03-014	6	14.97	12:55	14:36	101	1512	6	0.002	SC/GS	Yes	
6	6259	Office	Central	2017-03-015	5	15.01	13:03	14:40	97	1456	2.5	0.001	SC/GS	Yes	

Phase Contrast Microscopy Air Sampling Program, Medical Sciences Building, Floor 6, University of Toronto, March 10, 2017

Floor	Room	Description	Sample Location	Sample Number	Pump Number	Litres Per Minute	Time On	Time Off	Duration	Total Litres	Total Fibres	Results f/cc	Analyst	Within Acceptable Limits	Comments
6	6239K	Hallway	Central	2017-03-016	4	15.02	13:10	14:47	97	1457	5	0.002	SC/GS	Yes	Next to construction site.
6	6355C	Office	Central	2017-03-017	8	15.03	13:20	14:54	94	1413	2	0.001	SC/GS	Yes	
6	6235	Men's Bathroom	Central	2017-03-018	3	15	13:48	15:20	92	1380	2.5	0.001	SC/GS	Yes	
6	Exterior Control	Outdoors	Outside Medical Sciences Buiilding	2017-03-019	3	15	13:58	15:25	87	1305	1	0.001	SC/GS	Yes	Exterior sample for comparison.
6	Field Blank	NA	NA	2017-03-020	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-021	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-022	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.
6	Field Blank	NA	NA	2017-03-023	NA	NA	NA	NA	NA	NA	0	Not applicable	Not applicable	Not applicable	Required as per NIOSH Method 7400.

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Interpretation of Results

1) Within Ontario, the Occupational Health and Safety Act - Ontario Regulation 490/09 Designated Substances adopts the ACGIH TWA of 0.1 fibres/cc.

2) For each area tested compare the "Results f/cc" column to your area and how it compares to the above noted regulation.

TABLE I
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
February 5th, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-02-014	Room 6360	10:05	11:25	1200	0.002
2017-02-015	Room 7366	10:10	11:25	1125	<0.002
2017-02-016	Room 7368	10:12	10:27	1125	0.003

TABLE II
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
February 6th, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-02-023	Room 6360	12:44	1:57	1095	<0.0024
2017-02-024	Room 7366	11:50	1:05	1125	<0.0023
2017-02-025	Room 7368	11:57	1:15	1170	0.003

TABLE III
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
February 25th, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-02-084	Room 6334	8:25	9:32	1005	<0.0023
2017-02-085	Room 6334	8:25	9:32	1005	<0.0023

TABLE IV
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
March 1st, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-03-002	Room 6334 Adjacent to shaft	11:50	12:57	1005	<0.0027
2017-03-003	Centre of Room 6334	11:50	12:57	1005	<0.0027

TABLE V
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
March 7th, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-03-016	Room 6334 Adjacent to Shaft Door	3:21	4:28	1005	<0.0026
2017-03-017	Centre of Room 6334	3:21	4:28	1005	<0.0026
2017-03-018	Room 6238 Adjacent to Orbit Shaker	4:35	5:42	1005	<0.0026
2017-03-019	Room 6238 Adjacent to Thermo Controller	4:35	5:42	1005	<0.0026

TABLE VI
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
March 20th and 21st, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-03-166	Office (Room 3336B)	12:50	14:02	1080	0.003
2017-03-186	Office (Room 3336B)	16:00	17:40	1500	0.002
2017-03-187	Lab (3336)	16:02	17:42	1500	0.002

TABLE VI
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
March 21st, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-03-190	Office (Room 6360A)	17:00	18:17	1157	0.004

TABLE VII
Results of Air Testing
University of Toronto – Medical Sciences Building
1 King's College Circle, Toronto, Ontario
March 24th, 2017

Sample No.	Sample Location	Start Time	Stop Time	Sample Volume (L)	Airborne Fibre Conc. (f/cc)
2017-03-238	Laboratory (Room 6328)	18:09	19:21	1080	0.002

Appendix B

PCM AIR SAMPLE SPREADSHEET-OTHERS

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B
Client:	University of Toronto	Shift Date:	November 25, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-3	Nov. 25, 2016	Ambient: East Side of Hallway adjacent to Work Area	60	901.2	<0.05
21191-4	Nov. 25, 2016	Ambient: West Side of Hallway adjacent to Work Area	61	917.4	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	November 23, 2016
Project Location:	Medical Sciences Building, 1King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-5	Nov. 28, 2016	Ambient: East Side of Hallway adjacent to Work Area	62	931.2	<0.05
21191-6	Nov. 28, 2016	Ambient: West Side of Hallway adjacent to Work Area	61	917.4	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	November 30, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-7	Nov. 30, 2016	Ambient: East Side of Hallway adjacent to Work Area	61	916.2	<0.05
21191-8	Nov. 30, 2016	Ambient: West Side of Hallway adjacent to Work Area	60	902.4	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	3 rd Floor, Rooms 3334, 3334A, 3334B, 3326, 3326A, and 3326B.
Client:	University of Toronto	Shift Date:	December 21, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-53	Dec. 21, 2016	Ambient: East Side of Hallway adjacent to Work Area	61	915.6	<0.05
21191-54	Dec. 21, 2016	Ambient: West Side of Hallway adjacent to Work Area	61	915.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; "<" denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	December 2, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-11	Dec. 2, 2016	Ambient: East Side of Hallway adjacent to Work Area	62	930.6	<0.05
21191-12	Dec. 2, 2016	Ambient: West Side of Hallway adjacent to Work Area	61	915.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	7 th Floor, Rooms 7334, 7334A, 7334B, 7336, 7336A, 7336B and 7327.
Client:	University of Toronto	Shift Date:	December 2, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-13	Dec. 2, 2016	Ambient: East Hallway Adjacent to Work Area	60	901.2	<0.05
21191-14	Dec. 2, 2016	Ambient: West Side of South Hallway Adjacent to Work Area	62	932.5	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	7 th Floor, Rooms 7334, 7334A, 7334B, 7336, 7336A and 7336B
Client:	University of Toronto	Shift Date:	December 7, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-26	Dec. 7, 2016	Ambient: East Hallway Adjacent to Work Area	60	901.2	<0.05
21191-27	Dec. 7, 2016	Ambient: West Side of South Hallway Adjacent to Work Area	61	917.4	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	December 5, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-17	Dec. 5, 2016	Ambient: East Side of Hallway adjacent to Work Area	61	915.6	<0.05
21191-18	Dec. 5, 2016	Ambient: West Side of Hallway adjacent to Work Area	61	915.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	7 th Floor, Rooms 7334, 7334A, 7334B, 7336, 7336A and 7336B
Client:	University of Toronto	Shift Date:	December 10, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-33	Dec. 10, 2016	Ambient: East Hallway Adjacent to Work Area	62	931.2	<0.05
21191-34	Dec. 10, 2016	Ambient: West Side of South Hallway Adjacent to Work Area	62	932.5	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	December 7, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-24	Dec. 7, 2016	Ambient: East Side of Hallway adjacent to Work Area	62	930.6	<0.05
21191-25	Dec. 7, 2016	Ambient: West Side of Hallway adjacent to Work Area	62	930.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	7 th Floor, Rooms 7334, 7334A, 7334B, 7336, 7336A and 7336B
Client:	University of Toronto	Shift Date:	December 12, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-37	Dec. 12, 2016	Ambient: East Hallway Adjacent to Work Area	63	945.6	<0.05
21191-38	Dec. 12, 2016	Ambient: West Side of South Hallway Adjacent to Work Area	63	945.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	7 th Floor, Rooms 7334, 7334A, 7334B, 7336, 7336A and 7336B
Client:	University of Toronto	Shift Date:	December 14, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-41	Dec. 14, 2016	Ambient: East Hallway Adjacent to Work Area	65	975.6	<0.05
21191-42	Dec. 14, 2016	Ambient: West Side of South Hallway Adjacent to Work Area	65	975.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	December 12, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-39	Dec. 12, 2016	Ambient: East Side of Hallway adjacent to Work Area	61	915.6	<0.05
21191-40	Dec. 12, 2016	Ambient: West Side of Hallway adjacent to Work Area	61	917.4	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	December 10, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-35	Dec. 10, 2016	Ambient: East Side of Hallway adjacent to Work Area	61	915.6	<0.05
21191-36	Dec. 10, 2016	Ambient: West Side of Hallway adjacent to Work Area	61	915.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6302A, 6306, 6306A, 6308, 6308A, 6308B, 6316, 6316A, 6318, 6318A & 6318B.
Client:	University of Toronto	Shift Date:	December 14, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-43	Dec. 14, 2016	Ambient: East Side of Hallway adjacent to Work Area	62	931.2	<0.05
21191-44	Dec. 14, 2016	Ambient: West Side of Hallway adjacent to Work Area	63	947.5	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	3 rd Floor, Rooms 3334, 3334A, 3334B, 3326, 3326A and 3326B
Client:	University of Toronto	Shift Date:	December 27, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-55	December 27, 2016	Ambient: West Side of Hallway, Adjacent to Work Area	62	938.87	<0.05
21191-56	December 27, 2016	Ambient: East Side of Hallway, Adjacent to Work Area	62	938.80	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; "<" denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Koena Thoahlane, Junior Project Specialist

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	3 rd Floor, Rooms 3334, 3334A, 3334B, 3326, 3326A and 3326B
Client:	University of Toronto	Shift Date:	December 28, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-57	December 28, 2016	Ambient: West Side of Hallway, Adjacent to Work Area	60	905.04	<0.05
21191-58	December 28, 2016	Ambient: East Side of Hallway, Adjacent to Work Area	60	910.02	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; "<" denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Koena Thoahlane, Junior Project Specialist

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	3 rd Floor, Rooms 3334, 3334A, 3334B, 3326, 3326A and 3326B
Client:	University of Toronto	Shift Date:	December 29, 2016
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-59	December 29, 2016	Ambient: West Side of Hallway, Adjacent to Work Area	62	935.21	<0.05
21191-60	December 29, 2016	Ambient: East Side of Hallway, Adjacent to Work Area	62	940.35	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Koena Thoahlane, Junior Project Specialist

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	3 rd Floor, Rooms 3334, 3334A, 3334B, 3326, 3326A and 3326B
Client:	University of Toronto	Shift Date:	January 4, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-61	January 4, 2017	Ambient: West Side of Hallway, Adjacent to Work Area	62	930.62	<0.05
21191-62	January 4, 2017	Ambient: East Side of Hallway, Adjacent to Work Area	63	945.00	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms: 6305, 6307, 6307A, 6311, 6315, 6315A, 6317, 6317A, 6317B, 6321 & 6321A.
Client:	University of Toronto	Shift Date:	January 11, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-70	Jan. 11, 2017	Ambient: East side of hallway adjacent to Work Area	61	916.2	<0.05
21191-71	Jan. 11, 2017	Ambient: West side of hallway adjacent to Work Area	63	947.5	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms: 6305, 6307, 6307A, 6311, 6315, 6315A, 6317, 6317A, 6317B, 6321 & 6321A.
Client:	University of Toronto	Shift Date:	January 13, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-72	Jan.13, 2017	Ambient: East side of hallway adjacent to Work Area	63	945.6	<0.05
21191-73	Jan.13, 2017	Ambient: West side of hallway adjacent to Work Area	62	930.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms: 6305, 6307, 6307A, 6311, 6315, 6315A, 6317, 6317A, 6317B, 6321 & 6321A.
Client:	University of Toronto	Shift Date:	January 16, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-74	Jan.16, 2017	Ambient: East side of hallway adjacent to Work Area	62	930.6	<0.05
21191-75	Jan.16, 2017	Ambient: West side of hallway adjacent to Work Area	62	930.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms: 6305, 6307, 6307A, 6311, 6315, 6315A, 6317, 6317A, 6317B, 6321 & 6321A.
Client:	University of Toronto	Shift Date:	January 18, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-76	Jan.18, 2017	Ambient: East side of hallway adjacent to Work Area	62	930.6	<0.05
21191-77	Jan.18, 2017	Ambient: West side of hallway adjacent to Work Area	63	945.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms: 6305, 6307, 6307A, 6311, 6315, 6315A, 6317, 6317A, 6317B, 6321 & 6321A.
Client:	University of Toronto	Shift Date:	January 20, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-78	Jan.20, 2017	Ambient: East side of hallway adjacent to Work Area	61	916.2	<0.05
21191-79	Jan.20, 2017	Ambient: West side of hallway adjacent to Work Area	61	917.4	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms 6305, 6307, 6307A, 6311, 6315, 6315A, 6317, 6317A, 6317B, 6321 & 6321A.
Client:	University of Toronto	Shift Date:	January 23, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Time (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-80	January 23, 2017	Ambient: East Side of Hallway, Adjacent to Work Area	63	946.26	<0.05
21191-81	January 23, 2017	Ambient: West Side of Hallway, Adjacent to Work Area	63	947.52	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Koena Thoahlane, Project Specialist

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Rooms: 6360, 6352, 6350, 6359, and 6253.
Client:	University of Toronto	Shift Date:	February 1, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp.

Sample #	Sampling Date	Sampling Location	Sampling Times	Sampling Duration (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-92	February 1, 2017	Ambient Pre-cleanup: Room 6360	2:58 PM to 3:58 PM	60	900.6	<0.05
21191-93	February 1, 2017	Ambient: Room 6352	3:00 PM to 4:00 PM	60	900.0	<0.05
21191-94	February 1, 2017	Ambient: Room 6350	3:02 PM to 4:03 PM	61	916.2	<0.05
21191-95	February 1, 2017	Ambient: Room 6359	3:04 PM to 4:05 PM	61	917.4	<0.05
21191-100	February 1, 2017	Ambient: Room 6253	5:00 PM to 6:01 PM	61	916.2	<0.05
21191-103	February 1, 2017	Post-cleanup: Room 6360	8:05 PM to 9:05 PM	60	900.0	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; " < " denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	7 th Floor, Rooms 7368, 7358, 7360, 7367 and 7366
Client:	University of Toronto	Shift Date:	February 1, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Envirosafe Inc.

Sample #	Sampling Date	Sampling Location	Sampling Times	Sampling Duration (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-96	February 1, 2017	Ambient: Room 7368	4:04 PM to 5:05 PM	61	916.2	<0.05
21191-97	February 1, 2017	Ambient: Room 7358	4:05 PM to 5:05 PM	60	902.4	<0.05
21191-98	February 1, 2017	Ambient: Hallway by the Room 7368	4:06 PM to 5:07 PM	61	915.6	<0.05
21191-99	February 1, 2017	Ambient: Room 7360	4:07 PM to 5:08 PM	61	915.0	<0.05
21191-101	February 1, 2017	Ambient: Room 7367	6:10 PM to 7:10 PM	60	902.4	<0.05
21191-102	February 1, 2017	Ambient: Room 7360	6:11 PM to 7:12 PM	61	915.6	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; "<" denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant

PHASE CONTRAST MICROSCOPY (PCM) ANALYSIS REPORT – 0.05 LEVEL

OHE Project No.:	21191	Work Area	6 th Floor, Room 6360 and 7 th Floor, Rooms 7368 and 7366.
Client:	University of Toronto	Shift Date:	February 2, 2017
Project Location:	Medical Sciences Building, 1 King's College Circle, Toronto, Ontario	Contractor:	Canviro Services Corp. and EnviroSAFE Inc.

Sample #	Sampling Date	Sampling Location	Sampling Times	Sampling Duration (minutes)	Air Volume Sampled (Liters)	Fibre Concentration (f/cm ³)
21191-105	February 2, 2017	Post Cleaning, Room 6360	12:08 PM to 1:11 PM	63	945.6	<0.05
21191-106	February 2, 2017	Post Cleaning, Room 7368	12:15 PM to 1:19 PM	64	961.3	<0.05
21191-107	February 2, 2017	Post Cleaning, Room 7366	12:15 PM to 1:17 PM	62	932.5	<0.05

The concentration of airborne asbestos fibers should be less than 0.05 f/cm³ for an area to be considered suitable for occupancy.

General Notes:

1. Samples were collected on a cellulose ester membrane filter with 0.8 micrometre pore size and 25 millimetre diameter. The filter was mounted inside a three piece filter cassette with two inch conductive cowl.
2. Collection and analysis of the air samples was performed by Phase Contrast Microscopy (PCM) in accordance with NIOSH method # 7400A.
3. Limit of Detection (LOD) is 7 fibres/mm²; Limit of Quantitation (LOQ) is 100 fibres/mm²; "<" denotes less than
4. Sampling pumps are calibrated before and after the sampling period. The flow rate used to determine the volume presented on this report is the average of the two flow measurements.
5. Samples will be retained for 90 days after receipt and will be disposed of thereafter unless otherwise notified in writing
6. f/cm³ – fibers per cubic centimeter of ambient air.

Analyst: Salim Sayed, Project Consultant



Inspection Report

Project Information

Date: March 27, 2017	Pinchin Representative: Christopher Richardson	Report Number: 01 Pinchin File: 203461
Project Name: Medical Sciences Buildings – Ambient Air Monitoring	Site Address: 1 Kings College Circle, Toronto, Ontario	
Client: University of Toronto	Client File Number: N/A	
Contractor: N/A	Arrival on Site: 8:00am Number of Workers: N/A	

Distribution:

cc: Irfan Miraj

Irfan.miraj@utoronto

University of Toronto

Description of Work in Progress

Work Area	Work in Progress
Basement, 1 st , 2 nd and 3 rd Floors	Ambient Air Monitoring in Priority and Representative Areas Locations chosen either by facility occupants or randomly by Pinchin

Samples Collected and Results, as Available

Sample No.	Sample Type	Location/ Description	Start Time	Finish Time	Flow Rate (L/min)	Duration (Minutes)	Air Volume (L)	Total Fibres	Actual Result	Reportable Result
252852	Blank	---	--	--	--	--	--	1	N/A	N/A
252853	Ambient	Room 1134	9:50	10:59	15	67	1000	8	0.004 f/cc	<0.02 f/cc
252854	Ambient	Room 1140	9:54	11:05	15	71	1065	3	0.001 f/cc	<0.02 f/cc
252855	Ambient	Room 1144	9:57	11:04	15	67	1000	4.5	0.002 f/cc	<0.02 f/cc
252856	Ambient	Room 1105	10:15	11:26	15	71	1065	3	0.002 f/cc	<0.02 f/cc
252859	Ambient	Room 1106	12:45	13:52	15	67	1000	3.5	0.001 f/cc	<0.02 f/cc
252857	Ambient	Room 1114	10:20	11:27	15	67	1000	5	0.001 f/cc	<0.02 f/cc
252858	Ambient	Room 1162	11:20	12:27	15	67	1000	6.5	0.003 f/cc	<0.02 f/cc
252867	Ambient	Room 2279	15:22	16:31	15	68	1020	7	0.003 f/cc	<0.02 f/cc
252868	Ambient	Room 2277	15:27	16:35	15	68	1020	6	0.003 f/cc	<0.02 f/cc
252860	Ambient	Outside Room 3154	15:00	16:12	15	72	1080	3.5	0.002 f/cc	<0.02 f/cc
252864	Blank	--	--	--	--	--	--	1	N/A	N/A



Samples Collected and Results, as Available

Sample No.	Sample Type	Location/Description	Start Time	Finish Time	Flow Rate (L/min)	Duration (Minutes)	Air Volume (L)	Total Fibres	Actual Result	Reportable Result
252870	Ambient	Outside Room 3172	15:10	16:20	15	70	1050	4	0.003 f/cc	<0.02 f/cc
252865	Ambient	Outside Room 4283	15:13	16:25	15	72	1080	6	0.003 f/cc	<0.02 f/cc
252869	Ambient	Room 2282	16:35	17:41	15	77	1155	5	0.002 f/cc	<0.02 f/cc
252866	Ambient	Room 2285	16:36	17:52	15	77	1155	8.5	0.004 f/cc	<0.02 f/cc

☒ Calibration of air sampling pump checked before and after sample collection.

- | | | | | | |
|-------------------------|-------------------------------------|----------------------------------|--------------------------|-------------------|-------------------------------------|
| 1. SAMPLES & TESTING | <input checked="" type="checkbox"/> | 4. NEGATIVE PRESSURE | <input type="checkbox"/> | 7. WASTE HANDLING | <input type="checkbox"/> |
| 2. SITE ISOLATION | <input type="checkbox"/> | 5. PERSONAL PROTECTIVE EQUIPMENT | <input type="checkbox"/> | 8. CLEANING | <input type="checkbox"/> |
| 3. FACILITIES/EQUIPMENT | <input type="checkbox"/> | 6. DUST SUPPRESSION | <input type="checkbox"/> | 9. OTHER | <input checked="" type="checkbox"/> |

Item	Comments	Action
1.1	Two field blanks and fourteen ambient air samples were collected in areas specified by the university JHSC, and in representative areas throughout the Basement, 1 st floor, 2 nd Floor and 3 rd Floor. The samples were analyzed using the Phase Contrast Microscopy (PCM) method of analysis. All results were determined to be less than the regulated occupational exposure limit of 0.1 f/cc and less than Pinchin Ltd's action level for PCM air sampling of 0.05 f/cc. Air sampling was completed following NIOSH Method 7400 by a trained PCM analyst. The actual results (where less than the detection limit of the method) are also provided in the table above. The actual detection limit of the method based on the volumes collected is 0.02 f/cc and referenced as the reportable result.	
9.1	Pinchin will return to site in March 28, 2017 to conduct further air monitoring,	

End of Report

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Template: Master Inspection Report for HAZ/IEQ, January 20, 2017



Inspection Report

Project Information

Date: March 28, 2017	Pinchin Representative: Christopher Richardson	Report Number: 02 Pinchin File: 203461
Project Name: Medical Sciences Buildings – Ambient Air Monitoring	Site Address: 1 Kings College Circle, Toronto, Ontario	
Client: University of Toronto	Client File Number: N/A	
Contractor: N/A	Arrival on Site: Number of Workers: N/A	

Distribution:

cc: Irfan Miraj

Irfan.miraj@utoronto

University of Toronto

Description of Work in Progress

Work Area	Work in Progress
Floors 2, 3, and 4	Ambient Air Monitoring in Representative Areas. Locations chosen either by facility staff, occupants or randomly chosen by Pinchin

Samples Collected and Results, as Available

Sample No.	Sample Type	Location/ Description	Start Time	Finish Time	Flow Rate (L/min)	Duration (Minutes)	Air Volume (L)	Total Fibres	Actual Result f/cc of air	Reportable Result f/cc of air
252863	Blank	--	--	--	--	--	--	1	--	--
252861	Ambient	4280	11:39	12:50	15	70	1050	3	0.001	<0.02
252862	Ambient	4282	11:42	12:53	15	71	1065	2	0.009	<0.02
252878	Ambient	4287	11:46	12:57	15	71	1065	3.5	0.002	<0.02
252879	Ambient	4285	11:59	1:07	15	68	1020	5	0.002	<0.02
252880	Ambient	4283	12:00	1:10	15	70	1050	4	0.002	<0.02
252873	Ambient	3281	1:12	2:20	15	68	1020	3.5	0.002	<0.02
252874	Ambient	3280	1:14	2:28	15	74	1110	8	0.003	<0.02
252875	Ambient	3282	1:16	2:31	15	75	1125	7	0.003	<0.02
252876	Ambient	3284	1:24	2:33	15	69	1035	4.5	0.002	<0.02
252877	Ambient	3377	1:27	2:36	15	69	1035	6	0.003	<0.02
252890	Blank	--	--	--	--	--	--	1	--	<0.02



Samples Collected and Results, as Available

Sample No.	Sample Type	Location/Description	Start Time	Finish Time	Flow Rate (L/min)	Duration (Minutes)	Air Volume (L)	Total Fibres	Actual Result f/cc of air	Reportable Result f/cc of air
252885	Ambient	2281	3:15	4:28	15	73	1095	1.5	0.0006	<0.02
252886	Ambient	2283	3:17	4:30	15	73	1095	9	0.004	<0.02
252887	Ambient	2180	3:27	4:38	15	71	1065	5	0.002	<0.02
252888	Ambient	2178	3:27	4:39	15	72	1080	3.5	0.002	<0.02
252889	Ambient	2179	3:28	4:40	15	72	1080	6	0.003	<0.02

☒ Calibration of air sampling pump checked before and after sample collection.

- | | | | | | |
|-------------------------|-------------------------------------|----------------------------------|--------------------------|-------------------|-------------------------------------|
| 1. SAMPLES & TESTING | <input checked="" type="checkbox"/> | 4. NEGATIVE PRESSURE | <input type="checkbox"/> | 7. WASTE HANDLING | <input type="checkbox"/> |
| 2. SITE ISOLATION | <input type="checkbox"/> | 5. PERSONAL PROTECTIVE EQUIPMENT | <input type="checkbox"/> | 8. CLEANING | <input type="checkbox"/> |
| 3. FACILITIES/EQUIPMENT | <input type="checkbox"/> | 6. DUST SUPPRESSION | <input type="checkbox"/> | 9. OTHER | <input checked="" type="checkbox"/> |

Item	Comments	Action
1.1	Two field blanks and fifteen ambient air samples were collected in representative areas throughout the, 2 nd Floor, 3 rd Floor and 4 th Floor. The samples were analyzed using the Phase Contrast Microscopy (PCM) method of analysis. All results were determined to be less than the regulated occupational exposure limit of 0.1 f/cc and less than Pinchin Ltd's action level for PCM air sampling of 0.05 f/cc. Air sampling was completed following NIOSH Method 7400 by a trained PCM analyst. The actual results (where less than the detection limit of the method) are also provided in the table above. The actual detection limit of the method based on the volumes collected is 0.02 f/cc and referenced as the reportable result.	

End of Report

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Template: Master Inspection Report for HAZ/IEQ, January 20, 2017

Appendix C

TEM LABORATORY CERTIFICATES OF ANALYSIS

**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L9T 5N4

Phone/Fax: 289-997-4602 / (289) 997-4607

<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or 551703155

CustomerID: 55SELI62

CustomerPO: 119917

ProjectID:

Attn: **Josh Hamilton**
Safetech Environmental
3045 Southcreek Road
Unit 14
Mississauga, ON L4X 2X7

Phone: (905) 624-2722
Fax: (905) 624-4306
Received: 03/28/17 10:12 AM
Analysis Date: 3/30/2017
Collected: 3/23/2017

Project: **UNIVERSITY OF TORONTO MEDICAL SCIENCES, #119917**

Test Report: Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH Method 7402

Sample	Volume (Liters)	Non Asbestos Fibers	PCM F/cc	Asbestos Type(s)	Asbestos Fibers	Asbestos % of total	7402 Adjusted (TEM) F/cc	Notes
2017-03-215 ROOM 4302 A 551703155-0001	1497	6.0					<0.0018	Customer Set 1
2017-03-221 551703155-0002	0	0.0					N/A	Field Blank 1
2017-03-222 551703155-0003	0	0.0					N/A	Field Blank 1

NIOSH 7402 method only reports fibers > 5µm in length and > 0.25µm in width.

This method requires a minimum of 2 field blank analyses per set. The results above are blank corrected when possible.

Average number of asbestos fibers on field blanks: 0

Average number of non-asbestos fibers on field blanks: 0

Analyst(s)

Natalie D'Amico (3)

Matthew Davis
or other approved signatory

EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Canada Inc. Mississauga, ON

Report Amended: 03/30/2017 12:06:04 Replaces the Initial Report 03/30/2017 10:13:49. Reason Code: Client-Change to Sample ID

**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L9T 5N4

Phone/Fax: 289-997-4602 / (289) 997-4607

<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or 551703011

CustomerID: 55SELI62

CustomerPO: Uof T Medical

ProjectID:

Attn: **Michael Mitanis**
Safetech Environmental
3045 Southcreek Road
Unit 14
Mississauga, ON L4X 2X7

Phone: (905) 624-2722
Fax: (905) 624-4306
Received: 03/23/17 4:31 PM
Analysis Date: 3/24/2017
Collected: 3/22/2017

Project: **Uof T Medical Science Building**

Test Report: Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH Method 7402

Sample	Volume (Liters)	Non Asbestos Fibers	PCM F/cc	Asbestos Type(s)	Asbestos Fibers	Asbestos % of total	7402 Adjusted (TEM) F/cc	Notes
2017-03-196 Room 6334 551703011-0001	2086	0.0	0.050				<0.0013	Customer Set 1 PCM Data From Client
2017-03-210 551703011-0002	0	1	n/a			0	n/a	Field Blank 1
2017-03-211 551703011-0003	0	0	n/a			0	n/a	Field Blank 1

NIOSH 7402 method only reports fibers > 5µm in length and > 0.25µm in width.

This method requires a minimum of 2 field blank analyses per set. The results above are blank corrected when possible.

Average number of asbestos fibers on field blanks: 0

Average number of non-asbestos fibers on field blanks: 0.5

Analyst(s)

Jon Delos Santos (2)

Matthew Davis (1)

Matthew Davis
or other approved signatory

EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Canada Inc. Mississauga, ON

Report Amended: 03/31/2017 10:33:53 Replaces Report Amended: 03/24/2017 17:15:04. Reason Code: Client-Change to Sample ID

**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L9T 5N4

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<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or 551702975

CustomerID: 55SELI62

CustomerPO: UFT - Medical

ProjectID:

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Analysis Date: 3/24/2017
Collected: 3/20/2017

Project: **UFT - Medical Science Building**

Test Report: Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH Method 7402

Sample	Volume (Liters)	Non Asbestos Fibers	PCM F/cc	Asbestos Type(s)	Asbestos Fibers	Asbestos % of total	7402 Adjusted (TEM) F/cc	Notes
2017-03-167 Mechanical Riser (6334C) 551702975-0001	1201	20.5	0.130				<0.0022	Customer Set 1 PCM Data From Client
2017-03-164 551702975-0002	0	0	n/a			0	n/a	Field Blank 1
2017-03-165 551702975-0003	0	0	n/a			0	n/a	Field Blank 1

NIOSH 7402 method only reports fibers > 5µm in length and > 0.25µm in width.

This method requires a minimum of 2 field blank analyses per set. The results above are blank corrected when possible.

Average number of asbestos fibers on field blanks: 0

Average number of non-asbestos fibers on field blanks: 0

Analyst(s)

Jon Delos Santos (2)

Matthew Davis (1)

Matthew Davis
or other approved signatory

EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Canada Inc. Mississauga, ON

Report Amended: 03/31/2017 10:23:02 Replaces Report Amended: 03/24/2017 17:11:34. Reason Code: Client-Change to Sample ID