Fleming College (Sutherland Campus)
599 Brealey Drive
Peterborough, ON

September 8, 2025

Attention: Marriah Wickert - Manager, Health & Safety

Subject: Limited Indoor Air Quality (IAQ) Assessment
599 Brealey Drive, Peterborough, Ontario

Englobe File No.: 02412900.000

Executive Summary

Limited Indoor Air Quality assessment was conducted on September 6, 2025, following the completion of construction activities.

Airborne Parameter & Location	Results
Carbon Monoxide (CO), Carbon Dioxide (CO_2), Total Volatile Organic Compounds (TVOCs), Particulate Matter (PM), Relative Humidity (RH), and temperature were measured at the following three (3) locations: Washrooms C2128 (C2) and C2126 (C2) and Computer Lab B2101 (B2).	The Indoor Air Quality (IAQ) parameters were within recommended limits, indicating generally good air conditions.

Introduction

Englobe Corporation was retained by Fleming College (the Client) to conduct a Limited Indoor Air Quality (IAQ) Assessment, of select areas of Fleming College, located at 599 Brealey Drive, Peterborough, Ontario. The air sampling was performed following the completion of construction work within the project-specific work areas. The work areas were observed to be closed at washroom entrances via hard hoarding (i.e., plywood) and secured with locked doors, preventing access to the public.

Air monitoring was conducted by Englobe at the following locations: Washrooms C2128 (C2) and C2126 (C2) and Computer Lab B2101 (B2).

Statement of Limitations are included in Appendix A.

Methodology

As part of the Limited Indoor Air Quality assessment, the following tasks were performed:

- Real-time air monitoring for Carbon Monoxide (CO), Carbon Dioxide (CO_2), Relative Humidity (RH), Total Volatile Organic Compounds (TVOCs), and Temperature (T) was performed using a Quest EVM 7 CO-

PPB Advanced Particulate Air Quality Monitor, measuring the concentration of each parameter at 10-15 minute intervals over a one-hour period at each of the three (3) locations.

- Real-time air monitoring for particulate matter (PM) for particle sizes of up to 2.5 and 10 micrometers ($PM_{2.5}$ and PM_{10}, respectively) was performed using a DustTRAK DRX Desktop Aerosol Monitor 8533 measuring it at 5-10 minute intervals over a one-hour period at each of the three (3) locations.

The Quest EVM 7 CO-PPB Advanced Particulate Air Quality Monitor and the DustTRAK DRX Desktop Aerosol Monitor 8533 were calibrated by a third-party supplier (Pine Environmental Services LLC (Pine)) prior to use, in accordance with the manufacturer's methods and industry procedures.

The below sections detail information for the parameters measured:

- **Carbon Monoxide (CO):**
  - Measured in parts per million (ppm).
  - Acceptable levels indoors are typically below 9 ppm for long-term exposure (EPA standard).
- **Carbon Dioxide (CO_2):**
  - Measured in parts per million (ppm).
  - Normal indoor levels range between 400 – 1,000 ppm; levels above 1,000 ppm may indicate inadequate ventilation.
- **Total Volatile Organic Compounds (TVOCs):**
  - Measured in micrograms per metres (µg/m³).
  - Common indoors due to paints, adhesives, and cleaning agents; concentrations should be minimized.
- **Particulate Matter (PM):**
  - Measured in micrograms per cubic meter (µg/m³).
  - PM2.5 levels are critical for assessing dust and small airborne particles.
- **Relative Humidity (RH):**
  - Measured as a percentage.
  - Ideal indoor RH levels are between 30 – 50% to prevent mold growth and discomfort.
- **Temperature:**
  - Measured in °C.
  - Indoor temperatures should generally range from 68–76°F (20–24°C) for comfort and system efficiency.

Air Monitoring Results

Table 1: Summary of IAQ Assessment Results Computer Lab C2101 (C2)						
Time	CO (ppm)	CO_2 (ppm)	TVOC (µg/m³)	Temperature (°C)	RH %	PM 2.5 (µg/m³)
8:40 am	0	537	47	16.5	48.9	0.012
8:52 am	0	410	44	18.6	44.4	0.012
9:04 am	0	397	40	19.2	43.5	0.010
9:16 am	0	430	41	19.5	42.9	0.006
9:28 am	0	406	44	19.7	42.8	0.005

Table 1: Summary of IAQ Assessment Results Computer Lab C2101 (C2)						
Time	CO (ppm)	CO_2 (ppm)	TVOC ($\mu g/m^3$)	Temperature (°C)	RH %	PM 2.5 ($\mu g/m^3$)
9:40 am	0	408	39	19.9	42.5	0.004
9:52 am	0	375	40	19.9	42.4	0.005

Table 2: Summary of IAQ Assessment Results Washroom C2128 (C2)						
Time	CO (ppm)	CO_2 (ppm)	TVOC ($\mu g/m^3$)	Temperature (°C)	RH %	PM 2.5 ($\mu g/m^3$)
10:02 am	0	405	38	20.0	42.7	0.008
10:14 am	0	387	37	20.2	42.4	0.005
10:26 am	0	380	40	20.4	42.0	0.010
10:38 am	0	385	36	20.3	41.9	0.006
10:50 am	0	391	36	20.4	42.0	0.002
11:02 am	0	380	35	20.6	41.6	0.002
11:14 am	0	390	40	20.7	41.4	0.005

Table 3: Summary of IAQ Assessment Results Washroom C2126 (C2)						
Time	CO (ppm)	CO_2 (ppm)	TVOC ($\mu g/m^3$)	Temperature (°C)	RH %	PM 2.5 ($\mu g/m^3$)
10:00 am	0	525	41	20.0	44.1	0.005
10:12 am	0	404	40	20.1	43.1	0.004
10:24 am	0	425	42	20.4	43.0	0.005
10:36 am	0	410	39	20.4	42.7	0.002
10:48 am	0	437	40	20.4	42.6	0.003
11:00 am	0	395	38	20.6	42.3	0.005
11:12 am	0	423	41	20.7	41.9	0.004

Limited Indoor Air Quality Sampling Results:

- **Carbon Monoxide (CO)**
  CO levels remained consistently low across all locations, measured at 0 ppm. These levels are well below the Health Canada recommended limit of 10 ppm for long term 24-hour exposure and 25 ppm for short term 1-hour exposure, indicating at the time of testing no significant concern regarding carbon monoxide exposure.

- **Carbon Dioxide (CO_2)**
  CO_2 levels ranged from 375 ppm to 537 ppm across all tested areas, remaining well below the 1000 ppm threshold that typically indicates insufficient ventilation. According to Health Canada guidelines, indoor CO_2 concentrations below 1000 ppm generally reflect adequate ventilation and acceptable indoor air quality. Levels within this range suggest a low occupancy load during the time of assessment and effective air exchange within the building.

- **Total Volatile Organic Compounds (TVOCs)**
  TVOC concentrations across the tested areas ranged from 37 to 47 µg/m³. Levels below 200 µg/m³ are generally considered safe with no expected health effects, while concentrations between 200 to 500 µg/m³ are typically acceptable for most indoor settings. The measured levels fall within the 37 to 47 µg/m³ range, which is considered acceptable.

- **Particulate Matter 2.5 (PM)**
  PM concentrations remained minimal across all monitored locations, with readings ranging from 0.002 µg/m³ to 0.012 µg/m³. These values indicate very low airborne particulate presence, suggesting effective control of dust and other airborne particles in the assessed areas.

- **Relative Humidity (RH)**
  RH levels varied between 41.9% to 48.9%. For indoor environments, a relative humidity between 30% and 60% is generally recommended to maintain a comfortable and healthy atmosphere. The results indicate that the humidity levels were within the ideal range, contributing to overall indoor comfort and air quality.

- **Temperature**
  Temperature measurements were relatively consistent across all monitored areas, ranging between 16.5°C and 20.7°C. These values fall within the recommended indoor comfort range, suggesting adequate thermal comfort throughout the assessment period.

Conclusion

At the time of testing, limited indoor air quality (IAQ) parameters were found to be within acceptable limits suggesting acceptable air conditions in Washrooms C2128 (C2) and C2126 (C2) and Computer Lab B2101 (B2).

Closure

A Statement of Limitations, which forms an integral part of this report, is attached.

We trust that the information contained herein meets your needs. Should you have any questions or comments, please do not hesitate to contact us.

Englobe Corp.

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APPENDIX A

Statement of Limitations

STATEMENT OF LIMITATIONS

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Since the passage of time, natural occurrences, and direct or indirect human intervention may affect the views, conclusions and recommendations (if any) provided in this Report, it is intended for immediate use.

This Statement of Limitations forms an integral part of the Report.

The assessment should not be considered a comprehensive audit that covers and eliminates all present, past, and future risks. The information presented in this Report is based on data collected during the completion of the site assessment conducted. The overall site/building conditions were extrapolated based on information collected at specific sampling locations. Professional judgement was exercised in gathering and analyzing data; however, no sampling methodology can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Consequently, the actual site/building conditions between the sampling points may vary. In addition, analysis has been carried out only for the parameters identified, and it should not be inferred that other hazardous materials are not present.

It is recommended practice that the Company be retained during subsequent phases of the project, to confirm that the conditions throughout the site do not deviate materially from those encountered throughout the sampling program.

Any description of the site and its physical setting documented in this Report is presented for informational purposes only, to provide the reader a better understanding of the site and scope of work.

Any results from a third-party laboratory or other subcontractors reported herein have been carried out by others, and the Company cannot warrant their accuracy.

This Report is based on the assumption that the design features relevant to our work will be in accordance with applicable codes, standards, and guidelines of practice and constructed substantially in accordance with the Report. If there are any changes to the site development or building construction features, or there is any additional information that was not otherwise available at the time the work was performed, the Company should be retained to review the implications thereof to the contents of this Report. The design recommendations expressed in this Report are applicable only to the project described therein.

No attempt was made to dismantle, inspect, or test existing equipment other than that which is specifically noted in the report.