

**AIR QUALITY SURVEY  
ONTARIO MINISTRY OF CITIZENSHIP,  
RECREATION, AND TOURISM**

Prepared for:  
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Appendix I: Table 1

**Environmental Testing & Consulting Services**  
**INDUSTRIAL HYGIENE DIVISION**

**PROJECT PROFILE**

Client Name: Ontario Ministry of Citizenship, Recreation, and Tourism

Address: 400 University Avenue  
Toronto, Ontario  
M7A 1T7

Telephone: (416) 314-7098

Contact: Mr. Serge Dillon

Survey Date: April 28, 2005

Tests Conducted: Airborne mould and yeast.

## **EXECUTIVE SUMMARY**

On April 28, 2005 air sampling for mould & yeast was conducted at an office area (Floor 5, Stationary Cabinet) of Ontario Ministry of Citizenship, Recreation, and Tourism, Toronto, Ontario.

Results of the mould testing indicate that the airborne mould & yeast level for location tested was 13 Colony forming units (CFU/m<sup>3</sup>) of *Penicillium* mould. Results indicate that the outdoor sample gave result of 113 CFU/m<sup>3</sup>. The outdoor sample indicate presence of mainly *Cladosporium* mould, which is commonly found in the summer/fall season. The inside sample at Floor 5 (refer table 1, Appendix I) indicate the presence of a single species of *Penicillium* mould at 13 CFU/m<sup>3</sup>. It was also found in the outside sample at 6 CFU/m<sup>3</sup>. *Penicillium* can be found indoor (in shoe-dirt, carpet, tiles, sofas etc) as well outdoor. There are no specific guideline for indoor mould level, but according to Health Canada, up to 150 CFU/m<sup>3</sup> indoor is acceptable if there is a mixture of species reflective of outdoor air spores, and up to 500 CFU/m<sup>3</sup> is acceptable if the species are mainly *Cladosporium* or other tree or leaf fungi. The Guideline also state that if more than 50 CFU/m<sup>3</sup> of a single species (other than *Cladosporium* or *Altemaria*) are detected, there may be a reason for concern. Persistent presence of toxigenic (e.g. *Stachybotrys atra*, toxigenic *Aspergillus*, *Penicillium* and *Fusarium* spp) or amplification of mould require further investigation and action should be taken accordingly. No *Stachybotrys* was found in the inside sample. It should be noted that the above-mentioned testing is limited to number of samples and locations tested on the specific day of testing. The mould growth may be/or appear at areas where there is water intrusion/damage of high humidity. Any source of water leakage of high humidity need to be corrected and pro-active approach to mould issue is recommended.

**ONTARIO MINISTRY OF CITIZENSHIP, RECREATION, AND TOURISM  
AIR QUALITY SURVEY**

**1.0 INTRODUCTION**

This report pertains to the testing of airborne and mould & yeast at an office area of Ontario Ministry of Citizenship, Recreation, and Tourism, Toronto, conducted on April 28, 2005. This was in response to an inquiry concerning it by Serge Dillon of the Ministry. The survey was performed in compliance with standard procedures as established by the industrial hygiene profession.

The objective of the air testing was to re-test a location (Floor 5, Stationary Cabinet) for airborne, that was recommended as a result of the testing for the same conducted on March 23, 2005.

**2.0 SAMPLE TYPE & LOCATIONS**

It was decided by the Ministry to take one test for airborne mould & yeast on Floor 5, Stationary Cabinet. One outside sample was also taken for reference. The result for these are given in Appendix I (table 1).

Area sampling was utilized because it provides information of contamination for a specific location. Personal sampling (breathing zone) is normally utilized primarily because it provides a representative sample of an individual's exposure.

**3.0 METHODS & MATERIALS**

Air sampling for mould & yeast was conducted by drawing air through sterile strips by means of Biotest RCS air sampler calibrated at 40 L/min. The sterile strips were given by analytical laboratory. These were analyzed by for the identification and total count by Sporometrics Ltd.

**4.0 RESULTS AND DISCUSSION**

#### **4.1 Mould & Yeast**

The results of the testing indicate that the airborne mould & yeast level on the day of testing for the location tested was 13 CFU/m<sup>3</sup>. Results indicate that the outdoor sample gave result of 113 CFU/m<sup>3</sup>. The outdoor sample indicate presence of mainly Cladosporium mould, which is commonly found in the summer/fall season. The inside sample at Floor 5 (refer table 1, Appendix I) indicate the presence of a single species of Penicillium mould at 13 CFU/m<sup>3</sup>. It was also found in the outside sample at 6 CFU/m<sup>3</sup>. Penicillium can be found indoor (in shoe-dirt, carpet, tiles, sofas etc) as well outdoor. There are no specific guideline for indoor mould level, but according to Health Canada, up to 150 CFU/m<sup>3</sup> indoor is acceptable if there is a mixture of species reflective of outdoor air spores, and up to 500 CFU/m<sup>3</sup> is acceptable if the species are mainly Cladosporium or other tree or leaf fungi. The Guideline also state that if more than 50 CFU/m<sup>3</sup> of a single species (other than Cladosporium or Altemaria) are detected, there may be a reason for concern. Persistent presence of toxigenic (e.g. Stachybotrys atra, toxigenic Aspergillius, Penicillium and Fusarium spp) or amplification of mould require further investigation and action should be taken accordingly. No Stachybotrys was found in the inside sample. It should be noted that the above-mentioned testing is limited to number of samples and locations tested on the specific day of testing. The mould growth may be/or appear at areas where there is water intrusion/damage of high humidity. Any source of water leakage of high humidity need to be corrected and pro-active approach to mould issue is recommended.

**APPENDIX - I**

**Table 1  
Mould & Yeast**

**TABLE 1 RESULTS OF TESTING - Airborne Mould**

**TABLE 1 RESULTS OF TESTING - Airbourne Mould**

Re: Analysis of RCS Blotest air samples for fungi, client proj. no. Ministry of Citizenship

SAMPLE NO.	1	2
Volume (L):	160	160
LOD (CFU/m <sup>3</sup> ):	6	6
Location:	stationary cab.	outside
Expiry Date:	28 May 05	25 Jun 05
FUNGAL IDENTIFICATION:	COMPOSITION (CFU/m <sup>3</sup> )	
<i>Cladosporium cladosporioides</i>	-	69
<i>Penicillium</i> subgenus <i>Penicillium</i>	13	6
sterile mycelium	-	19
yeast	-	19
TOTAL (CFU/m <sup>3</sup> ):	13	113

AIHA EMPAT NO: 171117

END OF REPORT

