



September 6, 2019

**RE: AtmosAir Indoor Air Quality Testing, Rush University Medical Center, Chicago IL.**

### **Intent**

The intention of this study was to measure the effect of AtmosAir air purification systems on the Indoor Air Quality (IAQ) on select areas at Rush UMC.

AtmosAir bi-polar ionization air purification systems were installed into air handling unit S90. One (1) AtmosAir 508FC was installed. Sampling for airborne bacteria was performed. The sampling was done with and without the AtmosAir system operating and a laboratory analysis was done to compare the 2 samples.

### **Test Conditions**

Pre installation baseline testing was performed July 10<sup>th</sup>, 2019. Post installation testing with AtmosAir systems operating was done August 20<sup>th</sup>, 2019.

### **Microbial Sampling**

Airborne bacteria sampling was done in the Primary Care Office in an open area typical to the floor and activities. No special accommodations were made for the testing, occupant activities were carried out as typical. The samples were taken as per typical protocol in the breathing zone area. Sampling was performed by drawing air thru a microbial impactor and collected on a TSA agar plate for laboratory analysis. Analysis was done by EMSL Analytical Inc. to Method MICRO- SOP-132.

See below a chart of the baseline bacterial sampling results:

Bacteria Type	Pre AtmosAir	Post AtmosAir	% Difference
Bacillus Flexus	14 CFU /m3	ND	-100%
Bacillus Marisflavi	7 CFU / m3	ND	-100%
Kocuria Rosea	28 CFU / m3	ND	-100%
Micrococcus Luteus	49 CFU / m3	ND	-100%
Staphylococcus Lugdunensis	140 CFU / m3	ND	-100%
<b>Total</b>	<b>238 CFU / m3</b>	<b>ND</b>	<b>-100%</b>

ND = Non-Detectable

CFU = Colony Forming Unit



### **Conclusions**

Samples were taken for airborne bacteria. Significant reductions in total bacteria colony counts were measured and were found in non-detectable levels with AtmosAir operating. Reduction of bacteria will result in a healthier environment and less possibility of the transmission of illness.

Bacillus Flexus is a gram-positive bacteria. It is not well known if it is pathogenic.

Bacillus Marisflavi is a gram-positive bacteria. Though rare, it has been found to cause bacillus bacteremia, which can lead to localized infections.

Kocuria Rosea is a gram-positive bacteria. K Rosea has been shown to be pathogenic and caused urinary tract infections in those with weakened immune systems.

Micrococcus Luteus can be found in soil, dust air and water and is also a part of the flora of skin. M. Luteus can be contagious and is spread through direct contact (person to person) or deposition of bacteria on surfaces (person to surface).

Staphylococcus Lugdunensis is a gram-positive bacteria. S Lugdunensis has been associated with a wide variety of infections and post-operative infections.

The scope of services above was performed with the level and skill exercised by members of the air testing profession currently providing similar services under similar circumstances at the time service is provided. This statement is in lieu of other statements either expressed or implied.

The scope of services above is limited to conducting air quality testing only. Clean Air Group / AtmosAir makes no claims or warranties either expressed or implied towards any air quality testing pre-requisite requirements or building or HVAC system operating conditions. The air testing was done for comparison purposes only.

Sincerely,

A handwritten signature in black ink, appearing to read 'Anthony M. Abate'.

Anthony M Abate CIE, CMI  
Clean Air Group Inc.