

### Summer pool opening at the Knighton House – 4<sup>th</sup> Year Update

By: David R. Knighton MD, Co-Founder, President and Chief Executive Officer

Pool opening came late this year due to our non-existent spring and never ending winter. When I pushed the button to roll up the pool cover I anticipated that the WinterMoss™ and three previous years of PoolMoss® Pro would result in a clean, slightly cloudy body of water. I wasn't disappointed. As you can see from the picture, the water just needs some filtration to return to the crystal clear pristine pool water we enjoy all summer long.

The guys from Poolside (one of our fine dealers in the Minneapolis-St. Paul area) arrived and got the system running. They removed the filters from the bottom of the pool and started filtration. I store the filters in the pool water so they won't dry out and allow the organic contamination that accumulates on the filter paper to dry into a solid, impenetrable microscopic obstacle to proper filtration. This is the fourth year for these filters and they perform very well.

After a week of filtration, I removed the filters and washed off the accumulated debris from the winter. We've had a lot of rain in the past weeks that has refilled the pool to its proper depth and are enjoying the pool during our recent heat wave of 95-100 degree humid summer.

So far I've used four cups of cal-hypo, PoolMoss® Pro and catalytic carbon to maintain all chemistry in normal limits.

Family with kids come next week and we will have non-stop pool usage for the rest of the summer. Everyone comments on the clear, soft, non-irritating, and sweet smelling water. I just smile, say thanks, and praise the miracle of The Moss™.



Pool opening 2014 without WinterMoss™ and 1 year of PoolMoss® Pro



Pool opening 2018 with WinterMoss™ and 3 years of PoolMoss® Pro

# ProMoss™ Cleans Up a 1300 Ton Hospital Cooling Tower

By: Steve Chewning – Vice President of Field Operations - Southeastern Laboratories, Inc.



A major medical facility in the Southeast US recently implemented a ProMoss™ trial on their 1,300-ton HVAC cooling tower system. The system had been operating under a conventional chemical treatment program utilizing an inhibitor product and two micro biocides. Conditions at the start of the trial are summarized below.

The system had higher than expected bacteria levels with correspondingly high ATP values. Water clarity was poor and there were significant iron and copper levels present indicative of active corrosion occurring in the system.



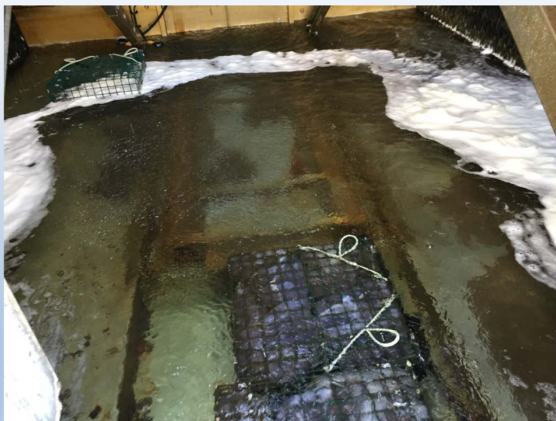
Total Bacteria Count  
 $10^7$  CFU/ml

ATP – 2610 RLU's  
Turbidity – 28 NTU's  
Iron – 1.69 ppm  
Copper – 0.42

Start of Trial – on Chemical Treatment

ProMoss™ was introduced to the system using cages dropped into the cooling tower sump. All chemical feed was discontinued. After two weeks, the following conditions were observed.

The ProMoss™ program had affected the following changes on the system:



Total Bacteria Count  
 $10^2$  CFU/ml

ATP – 126 RLU's  
Turbidity – 2 NTU's  
Iron – 0.02 ppm  
Copper – 0.29

Two Week's Into ProMoss Trial

- Total bacteria counts dropped from  $10^7$  to  $10^2$  CFU/ml
- ATP dropped from 2,610 to 126 RLU's reflective of the bacteria count drop
- Water clarity (turbidity) improved significantly dropping from 28 to 2 NTU's
- Iron levels were reduced from 1.69 ppm to 0.02 ppm
- Copper levels were reduced from 0.42 to 0.29 ppm

Throughout the 3-month trial total bacteria counts remained in the  $10^2$  to  $10^3$  range with ATP values averaging 182 RLU's. This was impressive considering the trial was conducted during the high load Summer season, which places the highest demand on microbiological control. Iron and copper levels averaged 0.09 ppm and 0.21 ppm respectively during the trial.

This facility is currently considering switching all of their cooling tower systems to ProMoss™. Southeastern Labs has recommended supplementary disinfection generators as well that utilize UV lamps to meet accepted Legionella guidelines, which will result in removal of all cooling tower treatment chemicals from the site.