

## **Case Study: ProMoss™ Plant-Based Water Treatment Solves Problems in Tobacco Manufacturing Plant Air Washer Systems**

By: Steve Chewning, CWT, and James Hall, Southeastern Laboratories, Inc.

### **Summary:**

These photos are from a tobacco processing plant air washer system in the Southeast US. The plant was switched from chemical treatment to ProMoss™ to address corrosion and odor issues in the plant resulting from the use of high levels of oxidizing biocides to maintain bacterial control. These photos are from a section of pipe leading into the system's plate and frame heat exchanger. The first photo was taken right after the start of the ProMoss™ treatment program (which included 1-2.5 ppm hydrogen peroxide). The second photo was taken three months later. Treatment with ProMoss™ has resulted in significant removal of old deposits; the result of years of operation under chemical treatment from multiple vendors.



*Start of ProMoss™ Treatment*



*3 months later*

The ProMoss™ program has resulted in the following benefits for this manufacturing operation:

- Improved control of organic contamination
- Reduced heat exchanger differential pressure, resulting in less frequent cleaning
- Elimination of plant corrosion
- Removal of old deposits in the system
- Elimination of plant odors
- Reduced system bleed rates
- Improved washer efficiency resulting from cleaner spray nozzles
- Reduction of chemical inventory and feed equipment
- Acid neutralization within the washer cooling water without chemical addition

**The full case study, with additional before and after system photos, a more detailed description of the system and treatment challenges, as well as data from the trial is available [here](#) and well worth a read by anyone selling ProMoss™ or potential customers considering its value.**

# To Filter Or Not To Filter – That’s the Industrial Sector Subject For This Month.

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

Two of the many properties ProMoss™ brings to industrial water treatment are flocculation and removal of scale. Flocculation produces clear water by binding TSS (total suspended solids) together until they fall out of solution. Chemical companies charge a lot of money for flocculants and polymers to accomplish the same task. This function of the ProMoss™ only becomes a problem when there is a large load of TSS and the treated water needs to pass a small orifice like a spray nozzle. In this case it makes total sense to place a 40-100 micron bag filter after the ProMoss™ contact chamber to remove the TSS that ProMoss™ has removed from the water by flocculation. If there are no small orifice critical points in the system, filtration may not be necessary. ProMoss™ also removes scale regardless of the ionic makeup. Two activities, at the present time, account for this. First, ProMoss™ causes ions in scale to become soluble, and second, it dissolves the organic contamination that glues scale crystals together into a solid.

Over time, the hard scale becomes soft and ends up as sand particles on the bottom of the vessel. Theoretically, if the flows and turbulence in the water are high enough, this removed scale could flow downstream and plug heat exchangers etc. If there is a concern, a filter would alleviate the fear.

One last point, we have heard from customers that treating with ProMoss™ is too effective and they have to empty the filters more frequently. In one factory, so much “crud” was caught in the filters they couldn’t believe it was coming from their water system and that The Moss™ was somehow making the material.

Luckily the process is progressive. The longer the system is treated with ProMoss™ the cleaner it becomes, there is less scale formation and less filterable material.

**Scale without ProMoss™**



**Scale with ProMoss™**



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## Where will we be next?

- Creative Water Solutions will be exhibiting at the AWT Annual Convention and exposition in Grand Rapid, MI, from September 13th to the 16th of 2017.

**“Come visit us in Booth 254!”**