Pulp Mill Significantly Reduces Biofilm Growth and Eliminates Manganese Deposition

**ClearPoint™ Biofilm Detection and Control Program**

**Customer Challenge**
A fluff pulp mill was experiencing black supply water and manganese deposition in its machine chests, heat exchangers and pipes. High levels of microbiologically-induced corrosion (MIC) occurred in the heat exchangers and pipes due to uncontrolled biofilm, resulting in increased maintenance and asset replacement costs.

**Recommended Solution**
Solenis recommended that the mill replace its existing hypochlorite treatment program with ClearPoint™ biofilm detection and control program. Comprised of three components—an OnGuard™ 3B analyzer, Biosperse™ CX3195 chlorine stabilizer, and Solenis’ superior service—the program offers real-time biofouling measurements and automatically adjusts chemical feed to ensure effective, around-the-clock microbiological control.

**Results Achieved**
- Biosperse CX3195 specificity with microorganisms resulted in a significant reduction in Petrifilm* counts as well as a significant reduction in biofilm thickness and growth
- Bleach consumption was reduced by 18%
- Manganese deposition was eliminated in the chests, resulting in increased efficiencies across the mill’s critical heat exchangers
- Heat exchanger efficiency improved, reducing maintenance costs
- Overall operating costs were reduced by $187,000/year

<table>
<thead>
<tr>
<th>Old Heater Target</th>
<th>New Heater Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baselining on hypo 6 weeks at 40°C/104°F</td>
<td>Cleaning – start CX3195</td>
</tr>
<tr>
<td>Cleaning – start CX3195</td>
<td>CX3195 6 weeks at bulk temp. (25°C/77°F)</td>
</tr>
<tr>
<td>New Heater</td>
<td>CX3195 6 weeks at 40°C/104°F</td>
</tr>
</tbody>
</table>

*Trademark owned by third party

Reduced Manganese Deposition on Probe

All statements, information and data presented herein are believed to be accurate and reliable, but are not to be taken as a guarantee, an express warranty, or an implied warranty of merchantability or fitness for a particular purpose, or representation, express or implied, for which Solenis International, L.P. and its affiliates and subsidiaries assume legal responsibility. ™Trademark, Solenis or its subsidiaries, registered in various countries. *Trademark owned by a third party. © 2015, Solenis.