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Novel Scale Inhibitor Increases Pulp Production and Reduces Bottlenecking

Infinity™ SL4393 scale inhibitor

Customer Overview:

- Segment: Pulp & Recovery
- Product(s): Pulp
- Location: Northeastern United States

Application Overview:

- Type: Brown stock scale control
- Equipment: Black liquor evaporators
- Capacity: 450 TPD
- Pulping: Sulfite

Existing Treatment:

- No previous chemical treatment
- Removal of evaporator body for physical cleaning or replacement
- Chemical boilout to remove calcium sulfate scale

Problem Summary:

This pulp mill did not believe that chemical treatment for scale would work due to the complexity of the evaporator process. The solution was to replace the evaporator body when scaling was so bad that the unit was no longer functional. When the body was replaced, the mill production increased then slowly fell over time, dropping in production within the first seven months due to reduced capacity of the evaporators.

The equipment manufacturer of the evaporator body would not guarantee the evaporator performance without the addition of a chemical treatment program. Solenis was selected by the equipment manufacturer as the chemical supply company most likely to provide the technical and chemical solution for the issue. The mill agreed to use the Solenis program.

Customer Objectives:

- Reduce or eliminate scaling within the black liquor evaporators
- Eliminate production restriction due to the scaling
- Eliminate the need to replace the evaporator body
- Reduce the frequency of boilouts
- Provide an effective program at a reasonable price

Solenis Solution:

The new evaporator body was started up after a mill outage and Infinity SL4393 scale inhibitor was fed just prior to where the scale started. After some initial startup optimization and changes, observations of the tubes showed that there was no scale buildup on the tube walls. To confirm this, the mill had the Infinity program shut off. Within one week, the sight glass started to show significant scale and it was decided to restart the Infinity program. Every observed week later the tubes continued to improve, showing less and less observable scale.

Customer Benefits:

- Pulp production was significantly improved and remains at its highest level to date.
- Downstream equipment benefited from reduced scaling and improved operations, resulting in reduced bottlenecking.
- The mill no longer needs to alternate between heavy black liquor lines due to improved scale control.
- Overall pulping efficiencies are up and all evaporators are now treated to maintain cleanliness and flow.
- The cost of the program has paid for itself several times due to consistent and higher rates of production.

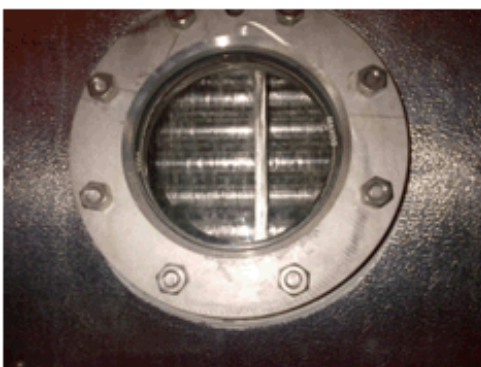
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Conclusion:

Infinity SL4393 scale inhibitor is an economical option for mills requiring a high performance scale control and is capable of handling high fouling conditions. This Infinity program successfully relieved this mill's primary bottleneck and allowed for an incremental increase in pulp production. The improved process flexibility and increased production clearly demonstrates the value of this technology.



Nine Days After Running Without Infinity SL4393 Scale Inhibitor.



Eight Months After Treatment With Infinity SL4393 Scale Inhibitor (No Visible Scaling).