

## RECORDED BENEFITS

- Scaling rates were significantly reduced
- Steam usage was reduced by 6,000 pounds per hour
- 12 CIP treatments were eliminated per year
- All hydroblastings were eliminated
- Sulfuric acid use was reduced by \$200,000 per year

## Fuel Ethanol Plant Improves Profitability With Scale Inhibitor Program

### Polystabil™ AS4535 Scale Inhibitor

#### Customer Challenge

A fuel ethanol plant in the Midwestern United States was experiencing significant evaporator fouling due to calcium oxalate scale. In an effort to reduce scale formation, clean-in-place (CIP) treatments were run every two weeks and hydroblastings were performed twice a year during cleaning outages. Plant management recognized the lost profit potential caused by cleaning outages and the potential to reduce its steam usage if evaporator efficiency could be improved.

#### Recommended Solution

Following a thorough audit of the plant's evaporators, Solenis recommend that the plant evaluate Polystabil™ AS4535 scale inhibitor, a proprietary liquid product that effectively controls the formation of mineral scales and inorganic hard scales within evaporators, heat exchangers and associated piping, pumps and tanks.

#### Results Achieved

Shortly after startup of the Polystabil trial, plant management noted significantly reduced scaling rates. Since permanently converting to the scale inhibitor program, the efficiency of the plant's evaporators has significantly improved with a reduction in steam usage of 6,000 pounds per hour. Additionally, the frequency of CIP treatments was reduced by 12 cleanings per year and hydroblastings were completely eliminated. Notably, the plant's return on investment for the program is over 900%.



Evaporator Prior to Treatment



Evaporator After Treatment With Solenis Program