



## Rendering Facility Preliminary Case Study

The facility renders animals as a means to recover protein. The facility generates wastewater flow of 75,000 gal/day with high levels of BOD (10,000 ppm), TSS (1,900 ppm) and FOG (up to 300 ppm). The treatment uses an Alloy Hardfacing Linear Separator followed by a Dissolved Air Flotation (DAF) unit. The treated water flows to the city and the sludge is returned back to the cooker operation(s).

The current chemistry using an aluminum based coagulant (4 x 275 gallon totes/month @ \$8,000/month) and a cationic flocculant (90 gallons/month @ \$1,400/month). Acid and caustic usage varies, but an average chemical cost is \$3,000/month. The result is poor removal efficiency due to the DAF being hydraulically undersized as well as wide pH swings being beyond the control of the pH control system. The current chemical costs are \$12,400/month and the monthly surcharge from the city averages \$45,000/month. Net cost: \$57,400/month.

The preliminary jar test with Floccin 1105 showed an improved removal of TSS (1,900 ppm reduced to 62 ppm) and BOD (10,000 ppm reduced to 5,800 ppm) and does not require pH adjustment. The resultant monthly surcharge to the city will now be reduced to \$18,000 with a Floccin cost of \$18,000/month for a net operational cost of: \$36,000/month. This yields a net savings of \$21,400/month or \$256,800 annually.

