

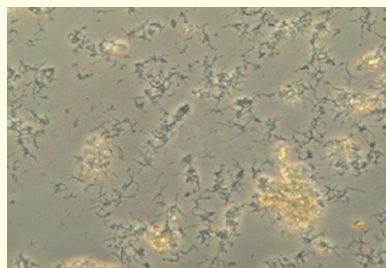


# Nocardia Foam Reduction and Reduced Effluent Suspended Solids noted with BioPro ULTRA at Municipal WWTP

## Background

A municipal wastewater treatment facility dosed with BioPro ULTRA showed a significant decrease in Nocardia foam, a reduction in effluent suspended solids and sludge yield.

The municipal wastewater treatment facility had an average daily flow rate of 0.25 MGD (million gallons per day), with flow as high as 1.5 MGD during wet weather events. Historically, the facility has had few operational challenges, other than occasional problems with Nocardia foaming. At the beginning of the case study, the oxidation ditch was covered with Nocardia foam.



Nocardia Foam at 200x

## Objectives

The case study objective was to demonstrate improved plant performance and decrease Nocardia foaming with BioPro ULTRA.

## Applications

Data was collected 60 days prior to the initial treatment with BioPro ULTRA and during the 60-day case study. BioPro ULTRA was dosed at 0.5mg/l for the first 30 days and 1.0 mg/l for the second 30 days.

DATE	DOSAGE
First 30 days	0.5 mg/L
Second 30 days	1.0 mg/L

## Results

- Foaming was significantly reduced (see photos below)
- Sludge yield was reduced by 19%
- MLSS concentration was reduced by 14%
- Effluent Total Suspended Solids (TSS) decreased by 30% at the 1ppm dose



Beginning of case study



End of case study

### MICROSCOPIC EVALUATION

The initial baseline microscopic evaluation revealed a healthy sludge with strong flocs. Overall filament abundance was very common with the predominate filament type being 0675. Nocardia filaments were common in the mixed liquor but excessive in the foam. Throughout the case study, the most notable impact was the reduction of Nocardia foam. There was a slight decrease in Nocardia abundance in the mixed liquor. Type 0675 remained the predominant filaments in the system.

### During the 120-day trial period:

