

22<sup>th</sup> INTERNATIONAL SPECIALIZED COURSE  
OPERATION AND CONTROL OF ACTIVATED SLUDGE  
PROCESSES USING MICROBIOLOGICAL ANALYSIS  
Perugia - Italy

FILAMENTOUS MICROORGANISMS IN ACTIVATED SLUDGE

Type 1851

UNDER PHASE CONTRAST OBSERVATION

OBSERVATION AT 1000x	Sulfur Granules	<i>In situ</i>	-
		<i>S Test</i>	-
	Other Cell Inclusions		-
	Filament Diameter		0.8 μm
	Filament Length		50 - 200 μm
	Filament Shape		Straight, Smoothly curved
	Filament Location		Extends from floc surface
	Cell Septa clearly observed		+, -
	Indentations at Cell Septa		-
	Sheath		+
	Attached Growth		-, +
	Cell Shape and Size		Rectangles 0.8 x 1.5 x 2.0 μm
	Notes:		Filament bundles
	UNDER DIRECT ILLUMINATION		
Gram Stain		+ weak	
Neisser Stain	<i>Filament</i>	-	
	<i>Granules</i>	-	

Phylogenetic  
affiliation:

*Chloroflexi*

Causes:

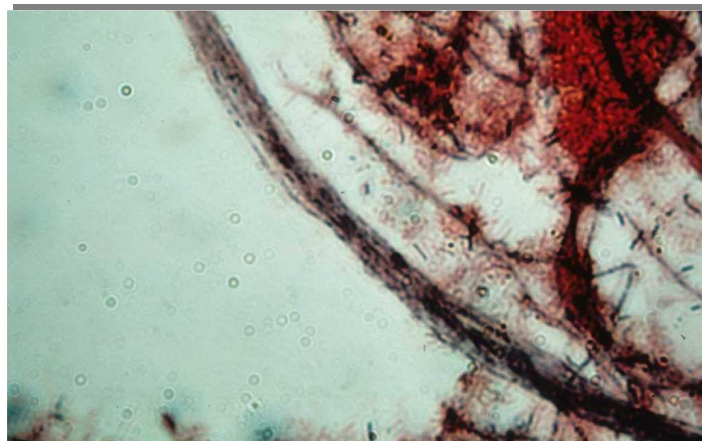
- rbCOD

Remedies:

- Install anoxic or anaerobic selectors
- Cl<sub>2</sub>



Filament bundles



Weakly Gram positive