

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

FILAMENTOUS MICROORGANISMS IN ACTIVATED SLUDGE

Microthrix parvicella

OBSERVATION AT 1000x			UNDER PHASE CONTRAST OBSERVATION	
OBSERVATION AT 1000x	Sulfur Granules	<i>In situ</i>	-	
		<i>S Test</i>	-	
	Other Cell Inclusions		Lipid storage - Polyphosphate granules	
	Filament Diameter		0.8 μ m	
	Filament Length		50 - 200 μ m	
	Filament Shape		Coiled	
	Filament Location		Mostly within the floc	
	Cell Septa clearly observed		-	
	Indentations at Cell Septa		-	
	Sheath		-	
	Attached Growth		-	
	Cell Shape and Size		-	
	Notes:		Large patches - like "spaghetti"	
	UNDER DIRECT ILLUMINATION			
Gram Stain			+	
Neisser Stain	<i>Filament</i>		-	
	<i>Granules</i>		+	

Phylogenetic affiliation:
Actinobacteria

Causes:

- Anaerobic/anoxic zones
- Low temperatures
- High sludge age

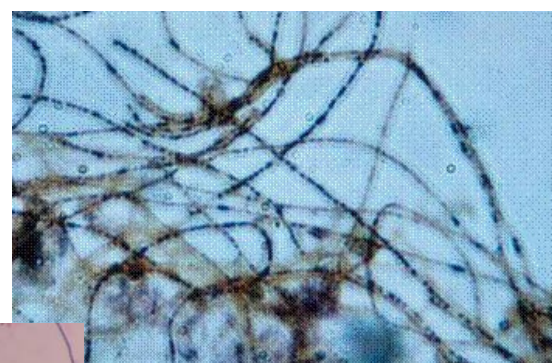
Remedies:

- Poly Aluminum Chloride
- Surface foam wasting
- reduce sludge age
- Cl₂



1000 X

Gram stain



Neisser stain

