Biofilms

Australian Water Quality Centre

Sampling Requirements:

- Sterile 600 mL PET bottle, Thiosulphate dosed
- Air gap essential
- Transport & Store at 4˚C
- Process within 6 hrs of collection up to max 24hrs (AS/NZS 2031:2001)

Expertise in identification of biofilm organisms includes:

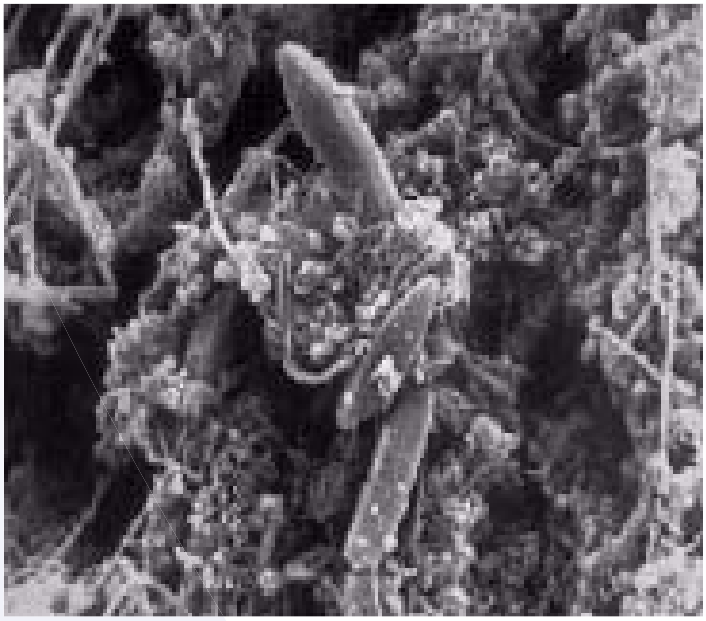
Microscopic examination
Pseudomonads
Filamentous bacteria
Iron bacteria
Fungi
Actinomycetes
Aerobic spores
Algae

- Testing to AS/NZS 4020 'Products for use in Contact with Drinking Water'

Biofilms can exist wherever surfaces come into contact with water

Biofilms are a community of microorganisms that can attach and surround a solid surface. The secretion of a "slime" making the Biofilm resistant to treatment with disinfection processes. If the Biofilm mass is not controlled eventually it may corrode pipes, clog water filters, impart a taste and odour and in the worst-case cause disease from opportunistic pathogens.

Many organisms can be part of the Biofilm such as Pseudomonads, Fungi, Yeasts, Algae and Protozoa. In fact, as the Biofilms grow they create their own environment, which can shed and migrate through the system like a living entity.



Uncontrolled biofilms may:

- Corrode equipment causing high maintenance costs and loss of production by the disintegration of equipment. This is specfic to organisms that can produce sulphuric acid and have iron reducing capabilities
- Reduce pipe diameters and increase frictional drag and pumping power resulting in reduced efficiency and increased costs.
- Impart taste and odours and impact on water quality
- Increased risk of infections
- Result in loss of time due to increased maintenance
- Reduce heat transfer efficiency at heat exchange surfaces resulting in greater energy costs

How the AWQC can help with Biofilms

- Provide identification of cultureable biofilm organisms from pipes, filter, water or equipment.
- AWQC Product Testing Laboratory can ensure compliance with AS/NZS 4020.

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The AWQC is a business unit of SA Water, a South Australian Government Enterprise