



Microscopic examination is an essential part of process control to facilitate the stable operation of activated sludge treatment. The micro-organisms present in the activated sludge have a profound impact on the overall treatment process. Whether used for preventative maintenance or diagnosing problems, microscopic examinations can provide operators with valuable insight into the health of their sludge.

## Preventative Maintenance

Monitoring the biomass of your activated sludge system is just as important as other routine chemical analyses. The micro-organisms in the biomass are powerful indicators of operational conditions and will often show symptoms of stress or toxicity days before the actual performance of BOD, Ammonia, or TSS removal deteriorates. Routine microscopic examinations can assist operators in foreseeing treatment issues before symptoms of underlying issues ever appear.

Don't wait for your biomass composition to become problematic, maintain permit compliance through routine microscopic examination!

## Diagnosing Treatment Problems

Incorrect biomass composition directly corresponds with operational problems. One objective of activated sludge microscopy is to interpret process control issues so the operator is better able to generate solutions.

Simply identifying the symptoms of a problem does not necessarily point to the culprit. Take for example poor settleability; underlying issues could include a massive growth of filamentous micro-organisms, floc particles are too small, absence of protozoa, or dispersed bacterial growth. Each of these issues could potentially have a different method of treatment, illustrating why identifying the real culprit is invaluable to getting your biomass back on the right track.

*Determine the Floc Shape, Structure, Strength, Size, Diversity;  
Presence of Filamentous Micro-organisms, Foreign Matter, Protozoa and Metazoa*

