Amoeba grow in many different types of wastewater and are able to tolerate environments with low dissolved oxygen. They are often found in lightly loaded plants or plants where nitrification occurs, as well during plant start-ups and following plant upsets.

As testate amoeba appear in so many variations of wastewater, conclusions on the plant performance cannot usually be made through their appearance alone. The appearance of the surrounding biomass needs to be analysed, for instance the presence of amoeba in conjunction with small, weak and dispersed floc typically indicates a very young sludge age. Another example is the replacement of protozoa such as rotifers and nematodes with amoebas in wastewater with a high sludge age. This typically indicates a spike in BOD, adjusting the RAS and wasting amounts can help the sludge to deal with additional load.

Amoeba can be identified on wet mounts and are typically visible in magnifications between 40x and 200x. The appearance of multiple small amoeba seen at magnifications greater than 400x may indicate that a sudden spike in BOD has occurred.

Have you got interesting bugs? Send us a photo. Find out what is growing in your treatment plant…

Mott MacDonald New Zealand provides microscopy, optimisation and troubleshooting services for municipal and industrial wastewater treatment, as well as our renowned water industry engineering capabilities.

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Contact us on 09 374 1568, or email nick.dempsey@mottmac.co.nz

*The bad news is that the American Society for the Prevention of Cruelty to Amoebas is shrinking. The good news is that the society hasn’t lost any of its members.*