

**TO:** CUSTOMER  
**FROM:** TONI GLYMPH-MARTIN  
**SUBJECT:** MICROSCOPIC ANALYSIS  
**DATE:** 11/9/13



The following samples were analyzed:

- Aeration tank mixed liquor - collected 11/8/13, received and analyzed 11/9/13
- Aeration tank foam - collected 11/8/13, received and analyzed 11/9/13

Observations:

This section will describe what was observed under the microscope. For instance, what filamentous bacteria types were observed, and which were dominant. The health and dominance of protozoan and metazoan species, floc characteristics, the presence of zooglea, exocellular lipopolysaccharide and/or dispersed bacteria, algae or fungi will also be noted.

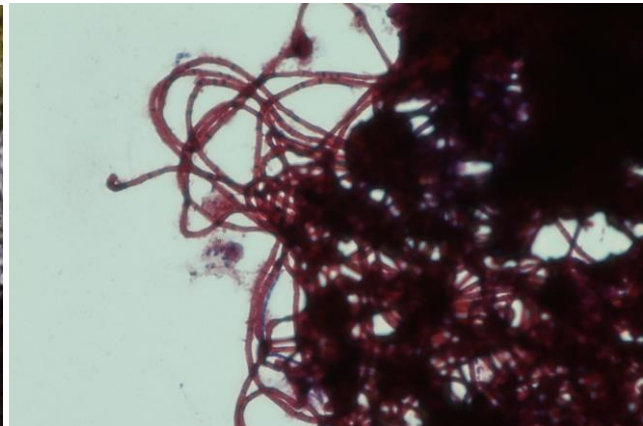
Discussion:

*Exocellular Lipopolysaccharide*

The discussion section will include pictures and explanations about what was observed in the sample. For example, if the India ink stain is used to confirm the presence of exocellular polymers, an image from your sample will be included along with an explanation of its significance in the treatment system along with possible causes and remedies.

*Filamentous Bacteria*

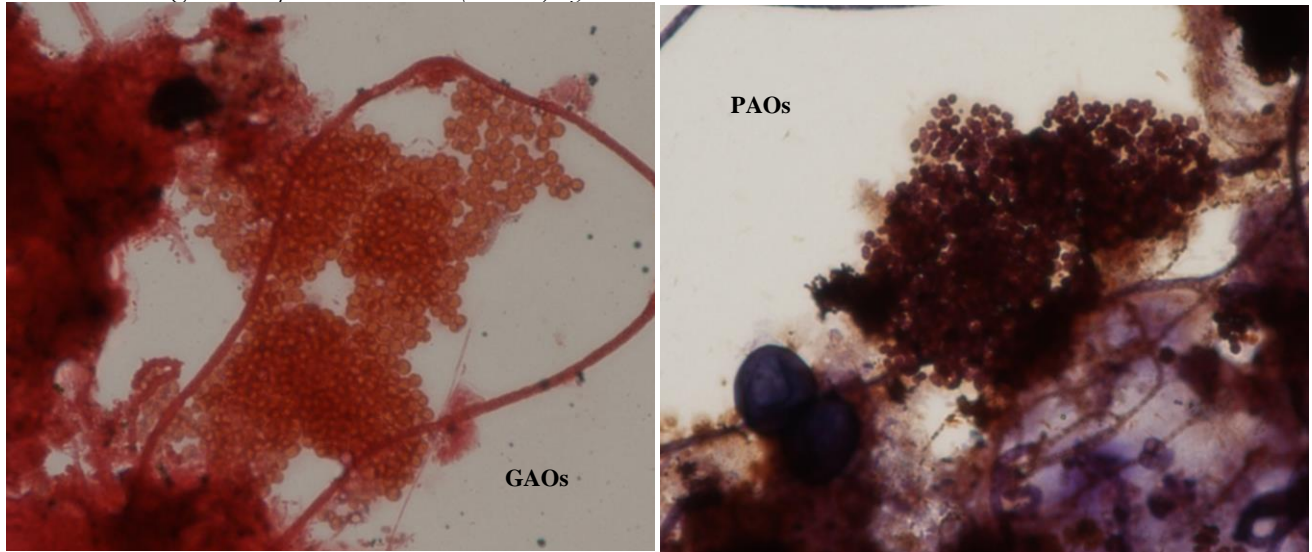
All dominant filamentous bacteria types will be identified along with possible causes and corrective actions. Slides will be stained using Gram stain and images will be included in the report.



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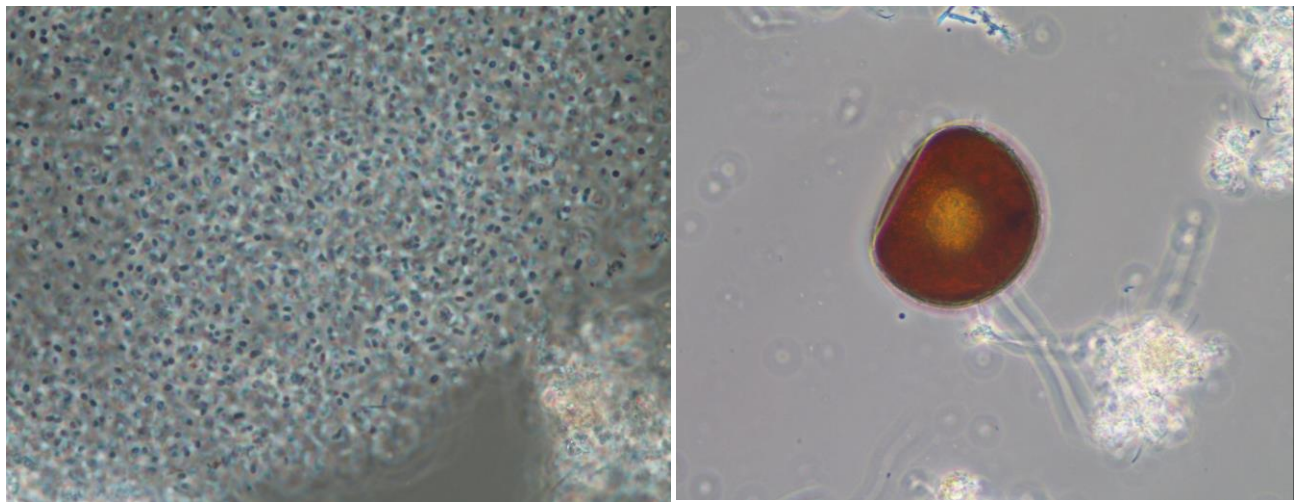
*Enhanced Biological Phosphorus Removal (EBPR) Systems.*



Slides are stained using the Sudan Black stain to determine PHB storage and the effectiveness and availability of VFAs in the anaerobic zone and the Neisser stain to determine polyphosphate uptake in the aerobic zone. Sample are quantified for the abundance of phosphorus accumulating organisms (PAOs) and glycogen accumulating organisms (GAOs).

*Evidence of Microbial Stress*

The presence of zooglear masses and shelled protozoa and metazoan species will also be quantified if required. The dominance and type of protozoa and metazoan will be discussed.



Summary and Conclusions

This section will summarize all the findings and present conclusions and possible process changes to correct any issues.

If you have any questions, feel free to call me at (312) 342-6797 or contact me at [toniglymph@msn.com](mailto:toniglymph@msn.com)

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