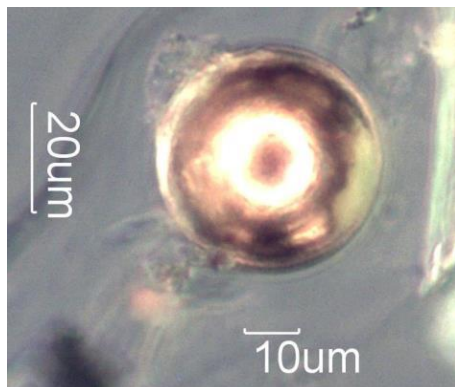


## Microscopy and Forensic Analysis “What’s in Your Oil®”?

Microscopy and Forensic Analyses take a deeper look at “What’s in Your Oil®”. TJH2b Analytical Services uncovers particles at the microscopic level in your oil and identifies their makeup and origin in order to help you better understand what’s going on inside your electrical power equipment, root cause failure analysis and in depth investigations. Particle identification only has value when it is interpreted in its specific environment.



**Sliding/Scuffing Metal Wear** - This is typical of "contact wear" in electrical equipment but may also be residue from the manufacturing process.



**Arcing Spheres/Debris (Sub-Micrometer-Low Energy)** - Arcing spheres are generated when an arc is discharged under the cover of oil. It is the result of molten metal being formed by the arc and ejected into the oil by rapid thermal expansion. The size of the arc particle is an indication of the strength of the arc.



**Cellulose Fibers (Transformers, Bushings)** - Cellulose fibers that show loss of birefringence and squared, or stepped terminations indicate they are generated by thermal action. Thermally degraded fiber has a DP below 250. This suggests that some of the cellulose fibers may be in contact with a hot surface.

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