

# Oil Analysis for Bearings with Microscopy Offered by TestOil

*Microscopy Lubricant Analysis for Bearings from TestOil*

CLEVELAND, OHIO, U.S., June 22, 2021 /EINPresswire.com/ -- [TestOil](#), the industry leader in lubricant analysis, offers no-cost microscopy and [analytical ferrography](#) for oil samples

that require further investigation. Microscopy measures the metallic wear particles in an oil sample using an optical microscope. TestOil Analysts count on it to flag conditions ranging from normal wear debris that needs to be monitored to severe wear modes that require prompt action.

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*TestOil Reliability Concierge Program Manager David Gawelek*

A recent example is two bearings that were on the same unit. Elemental spectroscopy showed the fan bearing oil sample had elevated lead and required further investigation. This triggered a microscopy test, which revealed that although the level of lead had increased, it was due to normal wear particles and no immediate maintenance action was required. The motor bearing oil sample indicated an elevated particle count and copper level high enough to trigger a critical alarm. Microscopy was also carried out on this sample and it revealed the presence of a high volume of large, abnormal wear particles composed of brass and formed by sliding friction. Analysts let the customer know that the bearing should be inspected to avert mechanical problems.

TestOil Reliability Concierge Program Manager David Gawelek said, “The basic tests can only tell you so much. Because of the particle size, spectroscopy will not tell you everything. Microscopy reveals both quantitative and qualitative information about metallic wear particles without the inherent restrictions of lab tests.”

Microscopy indicates the metallurgy of the wear particles as well as the wear modes that formed them. Elemental spectroscopy has a particle size limit of 7 microns, and ferrous wear concentration only detects iron and iron alloys. Some of the issues microscopy will detect include spalling of bearings, pitch line misalignment in gear mesh, axial play of gears and shafts,

The TestOil logo, featuring the word "TESTOIL" in a bold, blue, sans-serif font. The letters "T", "E", "S", and "T" are blue, while "O", "I", and "L" are black. Below the word "TESTOIL" is the tagline "REMARKABLE IN EVERY WAY" in a smaller, black, sans-serif font. The logo is framed by two horizontal blue bars.

and other mechanical problems that all create wear particles with unique shapes, sizes and surface characteristics.

"Testing the lubricant is not only for monitoring the fluid condition, but also the machine condition," Gawelek said. "Testing is not just to determine if the fluid should be changed, it is an active monitoring process to assess overall machine health. This monitoring process is a critical part of modern Reliability Centered Maintenance programs."

The regular sampling interval should allow corrective maintenance work to be planned and carried out before a mechanical problem progresses to the point that it negatively impacts production. For most industrial processes this interval ranges from monthly to quarterly. For companies that are facing a shortage of skilled personnel, [TestOil PRO](#) field services can manage and administer every aspect of a fluid analysis program, including microscopy, and seamlessly integrate it into an organization's Reliability and Maintenance program. Closing the information gap between plant and lab makes a fluid monitoring program much more efficient. With more than 30 years of experience in the oil analysis industry, TestOil focuses exclusively on assisting industrial facilities with reducing maintenance costs and avoiding unexpected downtime through oil analysis program implementation. As industry experts in diagnosing oil-related issues in equipment such as turbines, hydraulics, gearboxes, pumps, compressors and diesel generators, TestOil provides customers with a guarantee of same-day turnaround on all routine testing. With in-house, certified training professionals, TestOil offers lubrication and oil analysis training, private onsite training, certification training and exams, and educational webinars. For more information on partnering with TestOil on oil analysis programs or training opportunities visit <https://testoil.com>. Contact: 216-251-2510; sales@testoil.com.

Jeanna Van Rensselaar  
Smart PR Communications  
+1 630-363-8081  
[email us here](#)

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