

## **Definitions of Oil Analysis Testing Commonly Used**

**LubeDoc 4**

1. **TAN (Total Acid Number):** The quantity of base, expressed in milligrams of potassium hydroxide, that is required to neutralize all acidic constituents present in 1 gram of a sample.
2. **TBN (Total Base Number):** The quality of acid, expressed in terms of the equivalent number of milligrams of potassium hydroxide that is required to neutralize all basic constituents present in 1 gram of a sample. (Also known as the detergent level)
3. **Particle Count:** The number of particles present greater than a particular micron size per unit volume of fluid often stated as particles > 10 microns per milliliter.
4. **Viscosity:** Measurement of a fluid's resistance to flow. There are other forms of viscosity that can be measured in different ways. Absolute Viscosity is the ratio of the shearing stress to the shear rate of a fluid. Kinematic Viscosity is the absolute viscosity divided by the density of the fluid. It is usually rated in centistokes (CST).
5. **FTIR (Fourier Transform Infrared Spectroscopy):** A test where infrared light absorption is used for assessing levels of soot, sulfates, oxidation, glycol, fuel and water contaminants.
6. **Analytical Ferrography:** The magnetic precipitation and subsequent analysis of wear debris from a fluid sample. This test involves passing fluid over a chemically treated slide that is supported over a magnetic field.
7. **Ferrography:** An analytical test of assessing machine health by quantifying and examining ferrous wear particles suspended in the fluids of hydraulic oils.

There are many other oil analysis tests out there that should be performed to determine your equipment's life span, but these are just a few to let you know how to start a "Proactive Maintenance Program". One common sense practice for all equipment life is to eliminate the Mother Nature factors:

- 1) Check your air intake system. Be sure it is working properly, no holes in the intake runner, clean air filter etc.
- 2) Always make sure your vent caps are kept clean and clear of dirt and other debris that could shorten your equipment's life span.
- 3) Always double check you're using the proper oil for the job.
- 4) Never substitute oil. Oil is one of the least expensive components of our equipment. Make sure it always is at proper levels and that you use a lab you can trust to test your oil for wear and cleanliness. "Remember that clean oil and tested oil means extended life for you and your equipment".