



**FLUID
ANALYSIS
LABORATORY**



Fluid Analysis
Laboratory

Hewitt Equipment
Limited

5001, Trans-Canada
Highway
Pointe-Claire, QC
H9R 1B8

Phone :
(514) 630-3124

Fax :
(514) 630-3212

E-mail :
soslab@hewitt.ca

Web site:
www.hewitt.ca

Your Fluid
Analysis
Laboratory
(ISO 9001:2000
Registered Quality
System)

*Service par
Excellence*

List of tests offered for oil analysis

Basic tests

Our basic oil analyses include the principal tests to obtain a reliable and meaningful picture of the condition of the fluid and the wear of the compartment.

This basic treatment covers the following tests:



- **Viscosity:** test performed at 40° C and/or at 100° C, depending on the origin of the oil. The test is performed at the temperature closest to the operating temperature of the compartment analyzed.
- **Spectrometer:** measures the concentration in ppm of 16 different elements. These elements are wear metals (iron, aluminium, chrome, etc.) additives (calcium, molybdenum, zinc, etc.) present in the oil, or contamination (silicone).
- **Infrared:** measures the condition of the fluid. Comparison between new and used oil, to measure presence of carbon (soot), oxidation, sulphur products and nitrates. These results are expressed as percentages.
- **Physical tests:** detect the presence of fuel, water or glycol.

Optional Tests

For more thorough analysis, we offer a whole range of optional tests:

- **Particle count** ⁽¹⁾: checks cleanliness of the fluid by quantifying and categorizing the presence of particles in the fluid, in terms of their size.
- **PQ ferrous quantification** ⁽²⁾: determines index of magnetic particle (iron) concentration in the oil. The result is a unitless number that should be checked for trend.
- **TBN:** (total base number): an indication of the reserve alkalinity of a motor oil. Important in optimizing oil change intervals.
- **TAN:** indication of the quantity of acid compounds present in the oil. Demonstrates the degree of degradation of the oil. Used mainly in industrial applications.
- **Karl Fisher:** quantifies in ppm presence of water in the oil.
- **Microscopic examination:** visual examination of particles in a filtered sample. Identifies the type of debris found (dirt, ferrous metal, etc.) in the oil.



(1) Test included in the basic analysis of other than engine compartments for Caterpillar equipment.

(2) Test included in the basic analysis of engine compartments and all non-pressurized reduction gearboxes of Caterpillar equipment.

But though lubricating oil analyses are already part of the solution, what really counts is how they are interpreted. Hewitt Equipment's Fluids Analysis Laboratory will provide an interpretation tailored to your application. To the mechanical knowledge of our lab specialists, you can add the support offered by Hewitt Equipment Technical Services, access to the Caterpillar Engineering Services database, a communications network with other Caterpillar dealers, not to speak of the knowledge you have of your own equipment. Good communication between all the players is the key to ensuring that these resources are used in **YOUR** best interests!