Tribo-Lab
FLUID ANALYSIS AND TRIBOLOGY SERVICES

VeneFilter
Absolute Filtration

MINING MARKET

# Mining

## Lubricant analysis is a ***fundamental*** solution for ***mining machinery.***

Oils, fuels, coolants and greases under control, backed by **TRIBO-LABS**, our lubricant analysis laboratory.

In the mining industry, operating conditions, load variations and the high cost of replacing equipment make the analysis of ***lubricants, fuels, coolants and greases*** absolutely necessary. Whether you mine minerals, metals, oil sands or coal, you expect your equipment to perform reliably and efficiently to maximize production, protect the environment and ensure a safe operation.

Through routine testing, ***TRIBO-LABS*** helps you identify small problems before they become major failures. Our goal: maximize the reliability of your assets and regain control of your production with an effective fluid analysis program.




## How it ***works***

**01**
Take the sample with the system running at operating temperature.

**02**
Fill out the TRIBO-LABS form for the corresponding test.

**03**
Send the sample to the laboratory for analysis.

**04**
TRIBO-LABS logs and analyzes the sample and generates an e-report.

**05**
You receive the report by email and review the recommendations.

**24–48 h**
Turnaround time once the sample is logged.

## How ***often*** to sample?

Mining equipment is exposed to extreme environmental conditions for long periods. Sampling frequency should be based on how critical the unit is to production and on the cost of replacing or repairing it.

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# *TRIBO-LABS* test packages

## Diesel *engines*

DIESEL FUEL ANALYSIS

### *TRIBO 5* Basic diesel fuel test

**Sample volume: 1 L**

- Elemental analysis by ICP ASTM D5185
- Water and sediment ASTM D2709
- Bacteria, fungi and mold manufacturer
- ISO particle count ISO 4406:99
- Pensky-Martens flash point ASTM D3828

### *TRIBO 6* Advanced diesel fuel test

**Sample volume: 1 L**

- Elemental analysis by ICP ASTM D5185
- Pour point ASTM D7346
- Water and sediment ASTM D2709
- Bacteria, fungi and mold manufacturer
- Thermal stability ASTM D6468
- Viscosity ASTM D445
- Sulfur (ppm) ASTM D7220
- FBT ASTM D2068
- Flash point ASTM D3828
- Cetane index ASTM D976
- Cloud point ASTM D7689
- Distillation ASTM D7345
- ISO particle count ISO 4406:99
- Copper strip corrosion ASTM D130



OIL ANALYSIS

### *TRIBO 4* Engine oil test

**Sample volume: 100 ml**

- 24 elemental metals by ICP ASTM D5185
- Viscosity at 100 °C ASTM D445
- Fuel dilution % ASTM D7593
- Soot % ASTM E2412
- Water % by crackle in-house method
- Base number ASTM D4739
- Oxidation / Nitration ASTM E2412

COOLANT ANALYSIS

### *TRIBO 8* Coolant test

**Sample volume: 100 ml**

- Visual: color, oil and/or fuel contamination, precipitate, odor, foam, magnetic / non-magnetic in-house method
- pH ASTM D1287
- Glycol % (ethylene or propylene)
- Freezing point ASTM D3321
- Boiling point in-house method
- Nitrite in-house method
- TDS (total dissolved solids)
- Specific conductance in-house method
- SCA # in-house method
- Total hardness in-house method

## Hydraulic *systems*

### *TRIBO 1* Basic industrial oil test

**Sample volume: 100 ml**

- 24 elemental metals by ICP ASTM D5185
- Water % by crackle in-house method
- Viscosity at 40 °C or 100 °C ASTM D445
- Acid number ASTM D664
- Oxidation / Nitration ASTM E2412
- ISO particle count ISO 4406:99

### *TRIBO 2* Advanced industrial oil test

**Sample volume: 100 ml**

- 24 elemental metals by ICP ASTM D5185
- Water % by Karl Fischer ASTM D6304C
- Viscosity at 40 °C or 100 °C ASTM D445
- Acid number ASTM D664
- Oxidation / Nitration ASTM E2412
- ISO particle count ISO 4406:99

### *TRIBO 9* Filter test: particles and wear metals

**Sample: filter element**

- 24 elemental metals by ICP ASTM D5185
- Acid digestion elemental analysis ASTM D5198
- Gravimetric solids in-house method
- Micropatch in-house method
- Analytical ferrography ASTM D7690

## Crushers

### *TRIBO 1* Basic industrial oil test

**Sample volume: 100 ml**

- 24 elemental metals by ICP ASTM D5185
- Water % by crackle in-house method
- Viscosity at 40 °C or 100 °C ASTM D445
- Acid number ASTM D664
- Oxidation / Nitration ASTM E2412
- ISO particle count ISO 4406:99

### *TRIBO 2* Advanced industrial oil test

**Sample volume: 100 ml**

- 24 elemental metals by ICP ASTM D5185
- Water % by Karl Fischer ASTM D6304C
- Viscosity at 40 °C or 100 °C ASTM D445
- Acid number ASTM D664
- Oxidation / Nitration ASTM E2412
- ISO particle count ISO 4406:99

## Gear *systems*

### *TRIBO 1* Basic industrial oil test

**Sample volume: 100 ml**

- 24 elemental metals by ICP ASTM D5185
- Water % by crackle in-house method
- Viscosity at 40 °C or 100 °C ASTM D445
- Acid number ASTM D664
- Oxidation / Nitration ASTM E2412
- ISO particle count ISO 4406:99


**For more information, contact us:**

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