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COURSE BROCHURE

# Lubricant Oil Analysis Report Interpretation Training Course

15 – 19 November 2027
Rome

# Lubricant Oil Analysis Report Interpretation Training Course

**Ref:** 2856_109366 **Date:** 15 – 19 November 2027 **Location:** Rome **Fees:** 7200 GBP

Lubricant Oil Analysis Report Interpretation is a 1-week training course for reliability engineers, maintenance planners and lubrication technicians, in which each participant builds a lubricant oil analysis routine for their rotating equipment. Pumps, compressors, gearboxes and turbines now run longer between shutdowns, so a misread oil report can hide a failing bearing until it stops production. Jupiter Prime Training runs this lubricant oil analysis report interpretation course.

## Why Lubricant Oil Analysis Report Interpretation Matters Now

Condition-based maintenance asks lubricant results to justify each intervention. Turbine and compressor operators also face tighter uptime and emission targets. Laboratories return dozens of parameters per sample, and planners must separate real trends from scatter. Experienced lubrication staff are retiring, taking their judgement on varnish and abnormal wear with them. An organisation that reads its reports well extends drain intervals, catches bearing distress early and avoids unplanned trips; one that reads them badly changes good oil and misses failing machines.

## Who Gains Most from Lubricant Oil Analysis Report Interpretation

- Those setting sampling points, frequencies and bottle handling
- Those deciding whether a laboratory result needs action
- Those planning oil changes, filtration and flushing
- Those investigating bearing, gear and seal failures
- Those selecting lubricants and controlling storage and contamination

A site lubrication group sending its technician, planner and reliability engineer together gains most, sharing one way of acting on reports.

## Lubricant Oil Analysis Report Interpretation Capabilities

Participants assess what a set of oil results says about the machine.

- Specify sampling points, valves and frequencies for each machine class — the planner scheduling rounds
- Assess viscosity, oxidation and additive depletion results — the decision to extend or shorten a drain interval
- Weigh wear metal and ferrous debris trends against machine history — the engineer judging bearing or gear distress
- Calculate cleanliness targets from particle count codes — the choice of filtration and breather upgrades
- Design alarm limits from statistical baselines — the laboratory and site agreeing action triggers
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Communicate report findings as prioritised work requests — the maintenance supervisor releasing jobs

## Key Lubricant Oil Analysis Report Interpretation Terms

- Kinematic viscosity — resistance of an oil to flow at a set temperature, the first fitness check.
- Total acid number — a measure of acidic oxidation products, rising as the lubricant ages.
- Wear metals — fine metallic particles such as iron, copper and lead that reveal which component is wearing.
- Particle count code — a three-number cleanliness rating of particles per millilitre at set sizes.
- Karl Fischer titration — a laboratory test measuring water in oil in parts per million.
- Caution and critical limits — thresholds marking when a result needs closer watching or immediate action.

## Lubricant Oil Analysis Report Interpretation Day by Day

## Day 1: Lubricant Roles and Failure Mechanisms

- Lubrication Regimes and Film Thickness — Which Machines Face Boundary Contact
- Base Oil Groups and Additive Packages — Matching Lubricant Choice to Duty
- Oxidation, Thermal Breakdown and Varnish Formation — Setting Temperature Limits
- Contamination Ingress Paths and Breathers — Prioritising Sealing and Exclusion Upgrades
- Machine Criticality Ranking — Deciding Which Assets Enter the Sampling Plan

## Day 2: Taking Representative Samples

- Sampling Valve Location on Live Return Lines — Capturing True Machine Condition
- Bottle Cleanliness, Flushing Volume and Labelling — Protecting Result Credibility
- Sample Frequency by Criticality and Operating Hours — Balancing Cost and Coverage
- Reservoir, Drain Port and Vacuum Pump Methods — Choosing When Live Sampling Fails
- Chain of Custody to the Laboratory — Preventing Lost or Delayed Samples

## Day 3: Reading Fluid Property and Contamination Tests

- Viscosity Change at Forty and One Hundred Degrees — Spotting Wrong Oil or Shearing
- Acid Number and Oxidation by Infrared Spectroscopy — Timing the Next Oil Change
- Water by Crackle Test and Karl Fischer — Tracing Seal, Cooler or Condensation Ingress
- Particle Counts and Cleanliness Codes — Selecting Filter Ratings and Kidney-Loop Units
- Glycol, Fuel Dilution and Soot Indicators — Diagnosing Engine and Compressor Faults

## Day 4: Wear Debris and Alarm Limits

- Elemental Spectrometry of Wear Metals — Linking Iron, Copper and Tin to Components
- Ferrous Density and Analytical Ferrography — Confirming Severe Bearing or Gear Wear
- Rate-of-Change Trending Against Baselines — Separating Real Faults From Scatter
- Statistical Caution and Critical Limits — Agreeing Action Triggers With the Laboratory
- Combining Oil Results With Vibration Readings — Confirming Root Cause Before Shutdown

## Day 5: Practising the Lubricant Oil Analysis Routine

- Interpreting Full Laboratory Report Case Sets — Ranking Machines by Urgency
- Writing Prioritised Work Requests From Oil Findings — Releasing Maintenance Jobs
- Reviewing Sampling Plan Gaps Across a Pump and Gearbox Fleet — Closing Blind Spots
- Avoided Failure and Drain Extension Records — Reporting Results Upward
- Assembling the Lubricant Oil Analysis Routine — Owners, Limits and Response Steps

## Applying Lubricant Oil Analysis Report Interpretation After the Course

- Audit sampling valves on critical machines and move any point not capturing live return oil.
- Rebuild caution and critical limits for one machine class from its own results.

## Lubricant Oil Analysis Report Interpretation Questions FAQ

### What is lubricant oil analysis report interpretation and why does it matter now?

It is reading laboratory oil test results and turning them into maintenance decisions. It matters now because machines run longer between shutdowns, so a misread result can let a fault reach failure.

### Which roles gain most from lubricant oil analysis report interpretation?

Reliability engineers, maintenance planners and lubrication technicians gain most. Technicians improve sample quality, planners schedule oil changes on evidence, and engineers use wear debris trends to judge component condition.

### How does lubricant oil analysis report interpretation differ from a general condition monitoring course?

It concentrates on the oil itself. A general condition monitoring course spreads time across vibration, thermography and ultrasound; this one spends one week on sampling, fluid tests, wear debris and alarm limits.

### What do you bring back from lubricant oil analysis report interpretation?

You bring back a routine for your own equipment: sampling points and frequencies, tests per machine class, caution and critical limits, and the response each result triggers.

## Lubricant Oil Analysis Report Interpretation: The Way Forward

The lubricant oil analysis routine first informs which machines are sampled, how often and against which limits. Technicians use it on sample rounds, planners to release work and reliability engineers to review trends. After its first quarter, revisit the alarm limits, since site baselines often show the starting thresholds were too loose or too tight.