

Bureau Veritas

Oil & Petrochemicals



Oil Analysis

Maintain Equipment Reliability With
Expert Used Oil & Lubricant Analysis



**BUREAU
VERITAS**



LOAMSSM

Lube Oil Analysis Management System

 Manage Equipment
  Monitor Trends
  Streamline Communications

In-Service Used Oil & Lubricant Analysis

Routine oil and coolant analysis identifies small problems within machinery components before they become catastrophic failures that can incur costly repairs and bring production to a halt. Bureau Veritas is your trusted partner for global oil analysis solutions.

Testing & Analysis

Bureau Veritas operates oil analysis laboratories around the world. Our test slates identify trends in wear and contamination and pinpoint changes in the physical properties of lubricants, fuels and coolants to improve equipment reliability. From spectrochemical analysis to analytical ferrography, companies around the world depend on us to deliver quality results and informative, actionable maintenance recommendations.

Standardized ASTM procedures offer the most accurate and insightful methodologies for new and used oil analysis, fuel product qualification and special investigations. ASTM testing methodologies are routinely included in our oil analysis programs for new and used lubricants, distillate fuels, coolants and refrigerants.

| Key Fluids Tested | |
|------------------------------|-------------------------|
| Coolants | New and Used Lubricants |
| Deposits and Filter Contents | Refrigerants |
| Distillate Fuels | Turbine Oils |
| Greases and Wire Lubricants | Waste Oils |
| Metal-Working Fluids | |

LOAMSSM - Lube Oil Analysis Management System

Never has it been easier for equipment managers and maintenance personnel to optimize productivity using real-time oil analysis data. Using LOAMS – our exclusive Lube Oil Analysis Management System software – Bureau Veritas clients can:

- Monitor sampling schedules and submit samples online for fast, accurate laboratory processing
- View test results immediately
- Filter data by multiple parameters to manage large accounts or sets of data
- Graph trends in sample data to identify potential failures in progress
- Create report distributions for fast communication of critical conditions
- Move, merge or update equipment information across locations

Manage Equipment

- Move, add new or modify existing units or components or merge duplicate
- Import & export equipment lists
 - View complete component sampling histories
 - Track maintenance events
- Create graphs to compare trends among multiple pieces of equipment



Monitor Trends

- Graph test results by make or model to compare equipment performance
- Graph sample condition across similar unit populations
- Customizable home page provides a graphical view of your accounts at a glance



Streamline Communications

- Sort large sets of data by date range, severity, unit ID, make or model
- Automate sample report and management report distribution to anyone in your address book
- Designate the format, severity and frequency of sample reports e-mailed to you



Data management solutions that keep you one step ahead of critical maintenance events



A partnership with experienced data analysts whose informed maintenance recommendations are based on equipment-specific knowledge



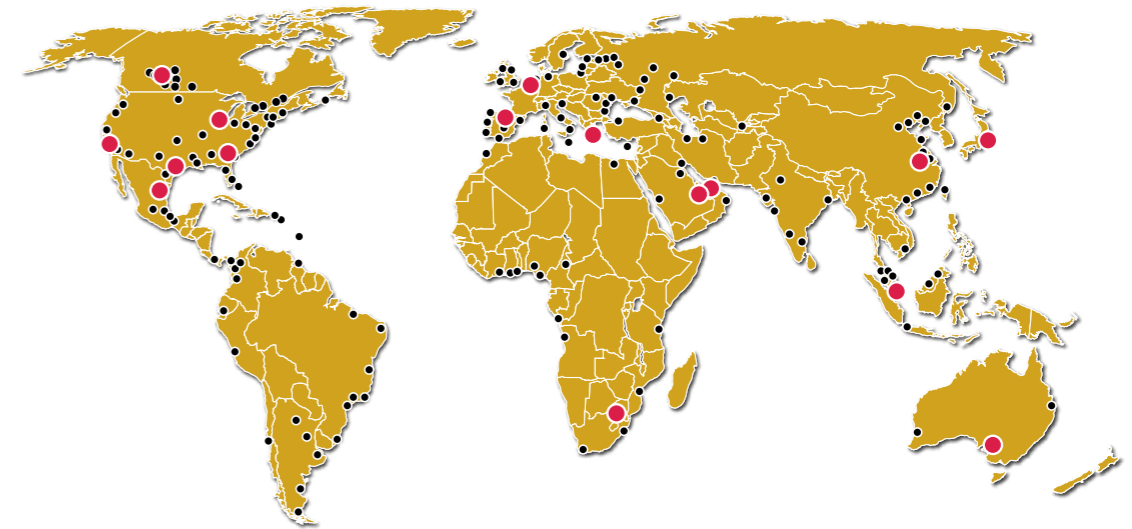
Engagement with a staff of laboratory professionals that take a personal interest in adding true value to the Bureau Veritas customer experience

| Key Features | Customer Benefits |
|--|---|
| 150 years of technical excellence in the Oil & Petrochemicals market | Your product expert for fuels, lubricants, coolants and oil analysis |
| Global Lube Oil Analysis Management System (LOAMS SM) for Oil Analysis | Exclusive software that brings clarity and meaning to complex laboratory results and maintenance recommendations that improve production and save money |
| No interruption to the production process | Samples can be taken while your equipment or fleet is in full operation |
| Precise, dependable and prompt reporting | Accurate results, the first time, every time |
| Independent and impartial testing results | Quality assurance executed to the highest standards, trusted by all parties |



Bureau Veritas

Oil Analysis Global Network



- Oil Analysis Laboratories
- Oil & Petrochemical Locations

Equipment Applications for Oil Analysis

| Industrial | Customer Benefits |
|------------------------------|---|
| Power Generation / Utilities | Oil sampling will ensure your generating equipment is available when demand is up |
| HVAC / Building Maintenance | Routinely monitoring chillers & compressors is essential to uninterrupted operations, predictable downtime & controlled operation costs |
| Process Manufacturing | An effective oil analysis program will keep your equipment running through effective condition monitoring of oil wetted components |
| Petrochemical | Achieve enhanced equipment reliability and improved maintenance scheduling with a world-class oil analysis program |
| Waste Treatment | Oil analysis as part of a robust maintenance program is a very cost effective way of meeting these requirements |

| Heavy Duty | Customer Benefits |
|------------------------|---|
| Construction | An effective oil analysis program will help to identify component failures before they occur. |
| Mining | Oil sampling keeps a mine's critical equipment in operation by reducing costly unscheduled downtime. |
| Forestry / Agriculture | Benefit from an early warning of potential problems that can result in machine downtime and major component failures during season. |
| Freight & Trucking | Hauling freight is rough on engine components and smart fleet managers know that oil analysis programs mean improved ROI. |

Innovation & Leadership

A globally recognized leader in oil analysis services, Bureau Veritas brings quality testing, an efficient data management platform and cost-effective, condition-based maintenance solutions to a wide range of industries. Our dedication to our customers and to generating and reporting quality results starts at the top.

ISO 17025 accreditation is a testament to top management's commitment to greater quality awareness, continuous improvement and efficiency. Strict quality control procedures are followed through every phase of laboratory analyses, data interpretation and final report preparation and our Quality Team monitors laboratory operations and personnel training to ensure reliable, repeatable test results. With multiple testing facilities worldwide, our peerless reputation for service extends around the globe.

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