

LabTrak

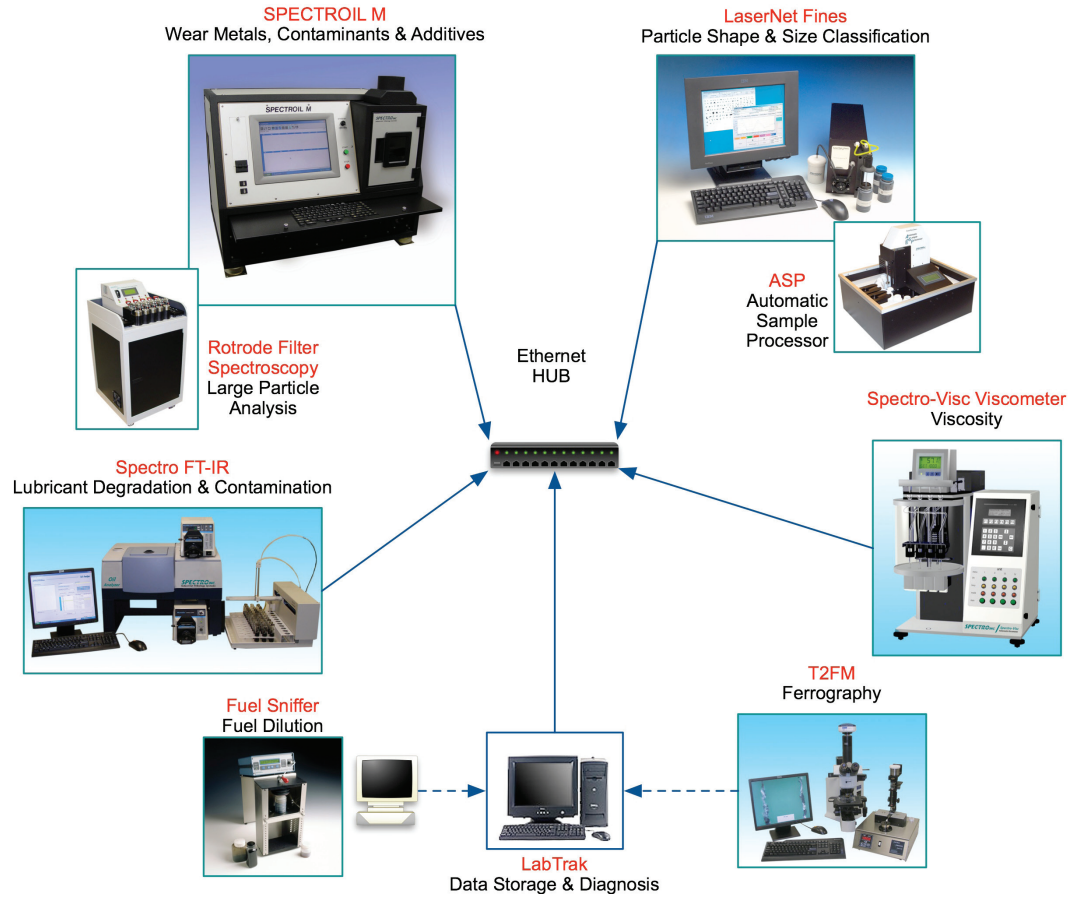
Oil Analysis Laboratory Information Management System

Application

A laboratory information management system (LIMS) accelerates routine processes and efficiently manages the activities of an oil analysis laboratory. It is part of an integrated informatics solution that controls customer information and the sample analysis and reporting procedures to significantly contribute to the overall quality of services provided by a laboratory.

When a laboratory processes large numbers of oil samples, a LIMS system keeps track of samples in the laboratory and ensures the correct information and results are linked to the proper component and customer. It automatically collects data from analytical instruments, flags suspect samples, and creates reports and statistics.

Recommendations on customer's equipment based on analytical tests are the foundation of the services provided by a used oil analysis laboratory. Custom LIMS software such as LabTrak assists the oil analysis laboratory in efficiently processing samples and information, and at the same time it assures the customer that reports are informative with sufficient detail to provide early warning on abnormal wear processes and/or lubricant degradation.

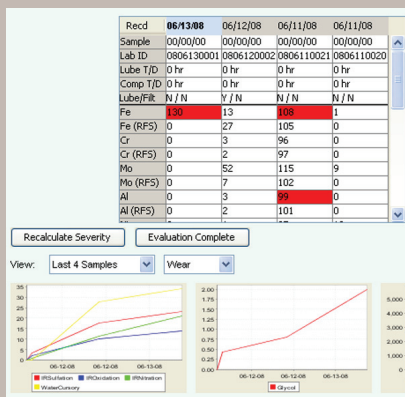


"LabTrak is designed and built specifically for the oil analysis laboratory"

LabTrak provides a small to mid-size oil analysis laboratory with a full-featured Laboratory Information Management System (LIMS) at an entry-level price. LabTrak is fully integrated with the analytical instruments provided by Spectro Inc. including the Spectroil M Oil Analysis Spectrometer, LaserNet Fines Particle Shape Classifier and Particle Counter, Rotrode Filter Spectroscopy for large particle analysis, Spectro FT-IR Oil Analyzer, and the Spectro-Visc viscometer. Optional interfaces or manual data entry into sample records from other instruments are also available to provide a comprehensive record.

LabTrak manages and administers the routine operations associated with a condition monitoring program based on oil analysis. It implements the tasks of a full function oil analysis laboratory and mirrors its day-to-day operation. Each major function of LabTrak opens in a new tab providing a quick overview making navigation easy. The software is organized into functional groups with process flow clearly visible for sample management, customer, and laboratory functions.

One of the most valuable features of LabTrak is that it seamlessly integrates with *Prescient*, the intelligent automated oil analysis system from Condition Monitoring International, LLC. This optional feature provides the lab with reliable, detailed, and complete expert analysis of oil samples using the full knowledge and expertise residing in *Prescient*.



Features

Overview

- ▶ Operates on one computer or on a LAN
- ▶ Automatically retrieves data from Spectro Inc. instruments
- ▶ Organized into functional groups

Accounts

- ▶ Can be searched, created, removed and reactivated with ease
- ▶ Includes equipment information and report recipients
- ▶ Automatic email reports sent after evaluation

Equipment

- ▶ Assigned to accounts and can be searched, created, removed and reactivated with ease
- ▶ Detail includes manufacturer, application and components

Components

- ▶ Rich customer component detail, complete with assigned test package
- ▶ Can be easily transferred to other equipment (engine change)

Sample Login

- ▶ Auto-fill and drop-down selection
- ▶ Automatically creates batches; with variable sizes

Data Entry

- ▶ Shows status of each batch as it moves through the laboratory
- ▶ Automatic for Spectro instruments
- ▶ Non-automated tests can be entered manually
- ▶ Completed samples are available for evaluation

Severity Ranges

- ▶ User defines limits for each test
- ▶ Data can be rated as Notable, Abnormal, and Severe for both "Hi" and "Lo" limits
- ▶ Limits can be specific to Component Type, Manufacturer, Model, and Application

Evaluation

- ▶ Results are color-coded with severity level
- ▶ Evaluator assigns overall sample severity and comments
- ▶ User defined library with short-hand for standard comments

Reports

- ▶ Printed or emailed to assigned recipient
- ▶ Test results, graphs, comments, and particle images

Sample Management

Sample management follows the sample through the laboratory from login to evaluation and reporting. Sample login is intuitive with drop-down selection and auto-fill for standard sample information. It also has the ability to create test packages that are easily defined and applied to components to guarantee that the correct analyses are performed. When the analysis of samples is complete, each test parameter is automatically assigned user defined severity values. Evaluation of data is streamlined with test results displayed with color-coded severity levels and graphical representations. The user has complete flexibility to create and manage a comments library to simplify data evaluation recommendations based on shortcut codes. Reports that include analyses results, recommendations and graphs can be printed or automatically sent to the customer by email. Images of particles obtained from ferrographic or shape classification analysis can be included in the reports.

The screenshots show the 'Sample Analysis Report' interface. The first screenshot shows a 'Ferrographic Image Report' with a microscopic image of particles. The second screenshot shows a 'Laser Net Fines' report with a graph of particle distribution. The third screenshot shows a 'Detailed Analytical Results Report' with a table of chemical elements and their concentrations.

Element	Concentration	Element	Concentration	Element	Concentration
Pb	108	Al	97	Sn	92
Cr	115	Aluminum	97	Lead	92
Mg	96	Barium	146	Zn	100
Ca	79	Phosphorus	100	Iron	97
Ba	102	Sulfur	97	Strontium	104
Si	111	Cadmium	97	Sodium	104
Ag	115	Cobalt	107	Lithium	114
Ti	104	Manganese	107	Potassium	114

Account/Equipment Management

Customer accounts for large and small organizations can be setup with sub-accounts and recipients designated to receive printed or email ed reports. These accounts can be easily edited, merged or moved to keep them up-to-date as organizations change. Equipment and component information are richly defined and include equipment and component identifiers as to types and application, such as off-highway or industrial. Utilities throughout the software include flexible searches, intelligent auto-completion during data entry, and tab-oriented user interface.

Component Record

The screenshot shows the 'Edit Component Truck #1 Engine' form. It contains fields for Account, Equipment Name, Component Name, Component Type, Component Manufacturer, Component Model, Serial Number, Sump Capacity, Lube Manufacturer, Lube Brand, Lube Grade, Shell, Filter Manufacturer, Filter Brand, Filter Rating, Parker, Test Package, and a table of Lab Sample records.

Lab Sample ID	Analysis Date	Severity	Status
0806110013	06-11-2008	0	Sent
0806110014	06-11-2008	0	Sent
0806110015	06-11-2008	0	Sent
0806110017	06-11-2008	0	Sent
0806110018	06-11-2008	0	Sent
0806110019	06-11-2008	0	Sent

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