

**LUBE**

# TECHNI-GRAM



**FROM :**

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## THE IMPORTANCE OF LABORATORY OIL ANALYSIS (LOA)

The analogy has often been made that oil analysis is comparable to the testing of blood from a standpoint of inferring that it is the “life fluid” of a system. For over seven decades, Southwestern Petroleum has been reducing the **total real cost** of lubrication for cost conscience customers in every industry. While lubricants traditionally average approximately 1% of maintenance budgets, they can impact as much as 35% or more of maintenance **costs**. The cost of new equipment and equipment downtime continues to increase at an average of 10-15% per year, with a magnitude **ten times** that of the cost of lubrication.

The first step in dealing with this critical problem is the realization that the cost of inadequate lubrication is not just a price difference between the highest and lowest quality products, or the salary of one less oiler. The cost is actually a function of the cost of equipment and the cost for the efficient utilization of that equipment. For operations with a great deal of equipment or the need to use that equipment a high percentage of the time, the cost of inadequate lubrication can be staggering. Performance oriented management recognizes that inadequate lubrication is a cost that need not be paid, and proper lubrication, as well as the monitoring of fluid lubricants through Laboratory Oil Analysis, is a means to improve productivity and profitability substantially.

It has been our experience, and has also been confirmed by numerous studies, that the longevity and performance of lubricants is a function of 1) the lubricants quality and 2) operation variables. While we have control over the quality of the lubricants, we do not have control over the operational variable. Keeping this in mind, we realize that the only way we can extend lubrication cycles with our products safely to the most effective and efficient oil change interval for maximum machine productivity and economy is by monitoring the lubricant in each individual unit. SWEPCO's Laboratory Oil Analysis Program (LOA) was established to take the guesswork out of the picture and ensure SWEPCO customers realize the maximum benefit from their lubricant dollar.

Oil analysis, as a means of determining the condition of an internal combustion engine, gearbox or circulating system, has moved out of the area of theory and into that of sound, practical preventative/proactive maintenance procedure.



*... to keep it running*

All contaminants are significant to the laboratory analyst. Liquids, such as fuel, water or anti-freeze, point to certain definite conditions that must receive attention. Solid contaminants, of which there are many, are indicative of specific leaks, malfunctions, wear or deficiencies in maintenance. Studied individually and collectively, they expose a complete picture of a components' operation.

Southwestern Petroleum has the scientific methods and equipment which allow earlier detection of potential problems and a more accurate diagnosis of their cause. We utilize the most technologically advanced laboratory equipment including Fourier Transform Infrared Spectroscopy (FT-IR) and an Inductively Coupled Plasma (ICP) machine which provides a quantitative analysis of the oil for wear metals and other elements.

In addition, SWEPCO's Laboratory Oil Analysis (LOA), utilizes advanced computer systems to store and retrieve historical analysis data on each individual engine, gearbox, or circulating system. This history can be especially revealing when compared to "published" wear level averages. Results of a specific analysis may be within allowable average ranges, but when compared to that units' past history, they may indicate a sudden increase in wear, thus alerting the operator of a pending premature failure.

Regular and consistent oil sampling reveals trends that alert customers to component changes. Some trends are normal as the component ages, while significant deviations from normal readings can alert maintenance personnel to possible troubles. SWEPCO's lab personnel analyses trends and makes maintenance recommendations regarding continuing use of the oil or a drain recommendation accordingly.

SWEPCO's Laboratory Oil Analysis is offered free of charge for the exclusive use of SWEPCO customers as a part of a complete predictive/proactive maintenance program. In addition to determining fluid cleanliness, wear particle trends and early warning of potential machinery trouble or unexpected failure. **SWEPCO customers have extended their drain intervals as much as 2,3,4,5 times or longer through the use of SWEPCO lubricants and this cost-free program.**