TIBCO Spotfire® Software for Inorganic Used Oil Dashboard

Introduction
In correlation with the high demand of oil usage is the rate at which this oil needs testing. Organizing the analysis of a myriad of sample results may seem like a daunting task, but that’s where the TIBCO Spotfire® Software for Inorganic Used Oil Dashboard comes to play. The key features of TIBCO Spotfire® and its ability to handle big data make it a leading data visualization and analysis software program that will have your laboratory saving time and utilizing its resources with an economical advantage.

Features

Combination Chart
The Combination Chart, shown in Figure 1, provides a tool for determining relative engine wear by analyzing the concentration of metal contaminants and oil miles. This type of chart can display both lines and bars, allowing you to format data in the best possible fashion.

Map Chart
A Map Chart has been created to view sampling locations on a map for geographical reference. This visualization can be seen in Figure 1. The markers have been configured to change color with an increasing concentration of any particular metal. Greater concentrations can also be identified by increasing marker size.

Key Benefits:
• View sample collection location data on a map
• Identify signs of engine wear by comparing contaminants to oil miles
• Interact with your data across all visualizations
2D Scatterplots
2D Scatterplots are designed to identify unfit oil samples and signs of engine wear in such a way that simplifies the analysis process. For quick reference, a horizontal line has been added at the contaminant limit. A color by rule has also been implemented to convert data markers above this line red while those below are turned green. These Scatterplots are shown in Figure 2.

Bar Chart
A Bar Chart, trellised by sample state, compares average metal concentrations to sample location. This visualization is displayed in Figure 3. The trellis feature may be applied using any column of data. As with the 2D Scatterplots, lines and color by rules can be added for full customization.

Box Plot
The Box Plot is used to visualize statistics between multiple oil types. Desired statistical measures can be represented in either the visualization itself, the statistical table below, or both. This visualization can be seen in Figure 4.

Interactivity
All visualizations within the Inorganic Used Oil Dashboard are built from the same Data Table, meaning that each visualization has the capability of interacting with the others. Utilizing this functionality, contaminant data may be marked within a Scatterplot and then subsequently analyzed on the other pages of the analysis.

Instructions have been provided on the last page of the dashboard to guide you through uploading and customizing your used oil data.

Figure 2. 2D Scatterplots displaying the contaminant limit for each chosen metal.

Figure 3. Bar Chart trellised by sample state.

Figure 4. Box Plot of oil comparison statistics.

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