



**CLEAN FUEL. BETTER PERFORMANCE**

# FUEL ANALYSIS

## FUEL QUALITY DETERMINES ENGINE PERFORMANCE

Engine performance has increased over the years by improved diesel fuel delivery systems. They are much more powerful, smoother, quieter and more economical. However, these gains are heavily influenced by the quality of the fuel.

Cetane number indicates the ignition quality of diesel fuel. A high Cetane number represents a short ignition delay time. Most fuels have a Cetane number above 40. As diesel fuel deteriorates, oxidation by-products begin to form. The fuel begins to turn dark, start to smell like varnish and cause engines to smoke. The build-up of contaminants in the fuel system and storage tanks, whether by fuel deteriorating or introduced, can cause filters to block, wear out fuel pumps and injectors and cause engine damage.

## FUEL AS A COOLANT AND LUBRICANT

Diesel fuel must also provide cooling and lubrication of the fuel system. Today's fuel injection systems are engineered to very high tolerances and the need for high efficiency filters. The introduction of water can be catastrophic. When the fuel is displaced by water, wear occurs because there is a lack of lubrication which was once provided by the diesel fuel. Water can also cause corrosion within the fuel system and promote bacterial growth.

## AVOID BACTERIA IN FUEL

Bacteria present in the fuel can cause serious damage. The bacteria feed on fuel and iron present in the fuel system. This causes acidic by-products which contribute to corrosion of fuel pumps and injectors. Blocked fuel filters can occur when bacterial contamination is at an advanced stage.

## WHAT YOU CAN DO TO PREVENT FAILURE

Don't let your fuel system deteriorate and prematurely wear out due to contaminated or poor quality diesel fuel. By sampling at regular intervals, for example at each fuel delivery, you are able to detect contaminated or poor quality fuel at an early stage.



For further information on Fuel Analysis or to discuss any of our other services, please contact our laboratory on (08) 8343 1426 or by email [analyticalservices@cavpower.com](mailto:analyticalservices@cavpower.com)

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