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These are samples of Diesel fuel with water lying at the bottom as fuel would sit in a fuel storage tank. The sample on the left is new fuel and is clean. The one on the right is old fuel as you can see by the colour, and has stale water lying on the bottom. At the interface of the two liquids bacteria, algae and, fungi are present.

We have been addressing this problem for over 20 years.

Water

Water enters the storage tank through, leaking dip riser and filler caps; leaking pipes; condensation; or inadequate drainage.

Once present, water affects the whole system:

- *Bacteria, algae and, fungi grow in the water faze and feed off the fuel.*
- *Corrosion occurs in tanks and pipe work*
- *Lift pumps, injector pumps and injectors suffer damage*
- *Filters plug*

Removing water from your fuel is the first step in maintaining the quality of your fuel. If the fuel is hazy due to suspended water, the fuel may require filtering.

Biological activity

Various bugs can live in diesel fuel. They aggregate in water that lies at the bottom of storage tanks and feed from the fuel.

These bugs will:

- *Plug filters*
- *Retain water in fuel*
- *Excreta makes the fuel more corrosive*
- *Accelerate fuel degradation*

Using a fuel biocide will kill any contamination present as well as protect the fuel from re-contamination.

Oxidation of diesel

As diesel ages it oxidises, darkens and formes insoluble particles. The particulate can plug filters and form gummy deposits fouling injectors.

Using stabiliser inhibits oxidation and lengthens storage life of fuel. The fuel may require centrifuging to remove insoluble particles.

Retained solids

A variety of substances can be suspended in fuel; water, biological material, lite scale, the by-products of oxidation, etc. Fuel quality degradates, equipment performance suffers. Removing contaminants will assist to maximise storage life of fuel.