BFE Sampling capabilities

Bowen Fluid Engineering can provide you with a same day, full and detailed oil sampling analysis. This analysis can be given as an ISO code, NAS 1638 or SAE AS4059 which can be cross referenced to the now dated CHARN class. We also use our analysis to determine the type of contamination in your oil and to identify dirt ingress, verify filter performance but most importantly it can be used to indicate the onset of active machine/ analysing equipment wear.

Our methods of oil analysis include;

Visual Comparison: BFE's engineers can give an instant visual analysis of an oil sample. We can easily determine if an oil sample is burnt or has excess water contamination. We can also give an indication of the percentage of water contamination using our comparison chart.

MBG/SRB's Culture Growing: Provides a reliable, fully quantitative assessment of microbiological contamination in fuels, oils and associated waters, in accordance with ASTM D7978 and IP613. We can conduct testing in our lab and allows us to detect microbial growth before it becomes a problem. The test detects very low levels of contamination by all three types of microbes (yeast, bacteria and mould) which cause microbial contamination of fuel and oil, leading to the degradation of equipment. The test will also detect dormant spores of microbes, which are often the only indication of contamination in a system.

Binocular microscope: This is a manual process where the engineer pulls a 100ml sample through a membrane and looks at it through a microscope at several magnifications. The benefits of this type of sampling are that our highly trained and experienced engineers are able to give a full breakdown of the contaminants found within the oil that an automated particle counter would not provide. These contaminants include several types of metals which would indicate which components are beginning to breakdown. We can also identify other materials such as rubber (usually from O-rings), silt, SRBs (sulphate

reducing bacteria) and MBG (micro biological growth). In addition to this we can take a photograph of a sample and forward it on to the customer.

Laser Analysis: Our Laser particle counter uses proven mesh blockage technology to report accurate, reliable, 3-part ISO 4406 cleanliness codes for most types of fluids, in many types of environment. We can provide accurate, 3 part* ISO 4406 cleanliness code results in under 6 minutes to quickly take preventative action. The particle counter also uploads real-time results directly to mobile devices for analysis and action. It also provides a measurement of fluid cleanliness, temperature, viscosity, and optional water content. The unit is also Compact, robust, fully self-contained portable design (fluid sampling pump included) which gives us the option to run samples in line (on board the vessel).

Spectrum analysis: Our precision rotating disk electrode optical emission spectrometer is a means of detecting and quantifying elemental wear in lubricants, enables a rapid, non-invasive determination of machine condition, while monitoring for additive depletion ensures that lubricating fluids continue to protect critical assets according to ASTM-D6595. It also supports the Joint Oil Analysis Program (JOAP) (military) calibration with results that correlate to those from the Spectroil MNW, the only approved spectrometer for elemental analysis of lubricating oil for US and NATO military use. We will detect unexpected elements to indicate coolant leaks, sea water ingress or dirt ingestion. The key features of this product include, it uses no sample dilution and no solvent, it only uses 2 ml of oil, 30 second test time with up to 31 elements simultaneously measured and it conforms to ASTM-D6595 (Oil) and ASTM-D6728 (Fuel).