

TECHNICAL NOTE

FLUID CONDITION MONITORING

An effective fluid condition monitoring program is beneficial for the following reasons;

1. Fluid that is maintained in good chemical condition will last longer and will require less maintenance.

This is because many of the fluid degradation byproducts are autocatalytic so if they are allowed to accumulate, they will degrade the rest of the fluid. If left, this will get worse and at a faster and faster degradation rate. The fluid may have to be changed or treated with Forsythe Ion Exchange (IX) cartridges.

2. Fluid that has low acid numbers will tend to require fewer purification media changes than fluid that has been allowed to increase up to the limits.

Also, phosphate ester fluids with excessive acid numbers can not usually be successfully recovered with the OEM purification systems. Especially if fuller's earth is used.

3. Fluid that has low particle counts will tend to require less maintenance. This is because contaminants and wear debris can accelerate fluid degradation.

In addition, cleaner fluid should mean less maintenance on dirt sensitive system components such as pumps, filter elements, screens and servo-valves.

4. Fluid that has always been in good condition is less likely to cause deposits on servo and solenoid valves.

The filter element life can also be extended and the recommended periodic reservoir cleaning may not be necessary.

5. Fluid tests such as particle counts can warn of problems with pumps and valves before other signs.

The benefit is that corrective action can often be taken before there is any damage.

6. Lastly, periodic fluid testing is specified by the turbine manufacturers.

Routine fluid testing is provided at no charge by Forsythe and sample bottles are also available.