

DRIVING CONTINUOUS IMPROVEMENT THROUGH STRATEGIC CRITICAL ASSET MONITORING

Sheffield Forgemasters, a global steel production and engineering company, installs Tan Delta's world leading asset monitoring solution.

Project Summary

Tan Delta's real-time oil condition monitoring system was fitted to the hydraulic oil filtration circuit on one of Forgemasters' business-critical Forging Presses to establish the real-time condition of the hydraulic oil. The results of the trial showed accelerated oil degradation indicating that the current filtration unit was not maintaining the oil in optimal condition.

As a result of the resounding success of the initial trial, Forgemasters in partnership with Tan Delta, now plan to extend the project into further critical areas, aiming to move towards a real-time condition monitoring approach across their entire site thereby realising significant financial benefit through their strategic asset management initiative.



OPERATIONAL BENEFIT

Installing Tan Delta oil condition monitoring, and optimising the hydraulic filtration system for Forgemasters' Forging presses is estimated to save in excess of £50K annually, further reducing annual downtime, and providing confidence that oil quality is always fit for purpose.

HIGHLIGHTS

Reduced Maintenance Intervals

Maintenance can be carried out at the optimal point, extending service intervals and moving towards predictive maintenance.

Reduced Waste

Oil purchase, disposal and associated costs can be reduced due to fewer oil changes.

Prevent Catastrophic Failure

Unexpected contamination which could lead to serious equipment damage was immediately identified.

Reduced Sampling

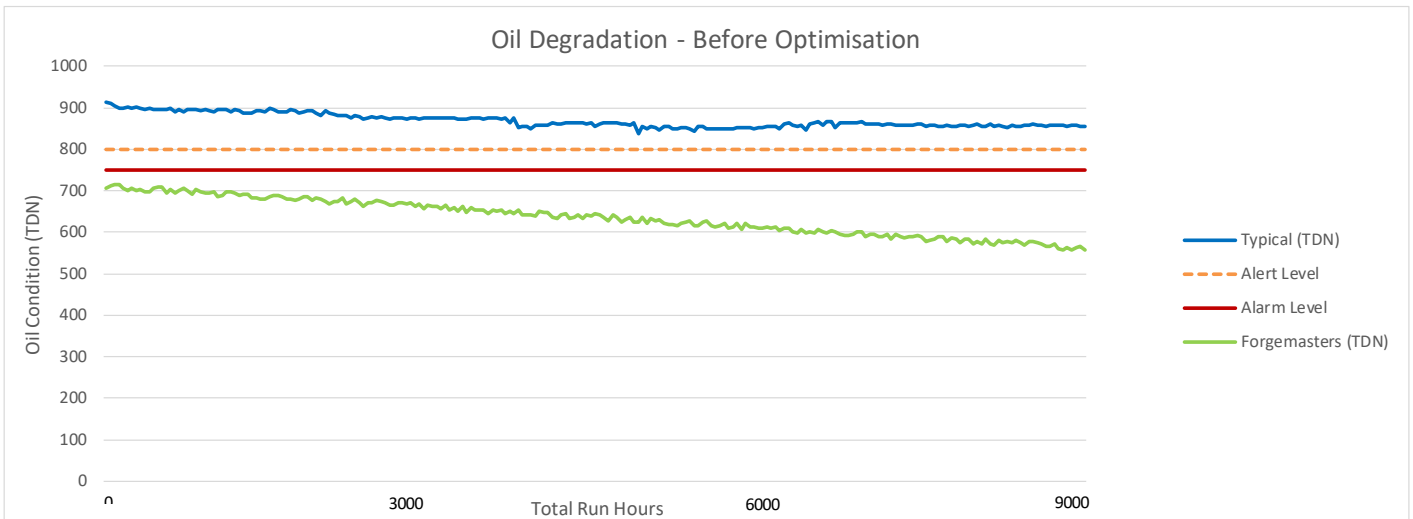
Oil sampling and analysis costs are significantly reduced, and the real-time monitoring systems will provide 24/7 confidence in their oil quality.

“ Following a very successful initial trial, we have partnered with Tan Delta to implement an online maintenance program for all our critical assets. By monitoring oil quality, we identified areas for overall operational improvement. Tan Delta have enhanced our maintenance practices across the Sheffield plant, their advice and expertise has been invaluable so far. ”

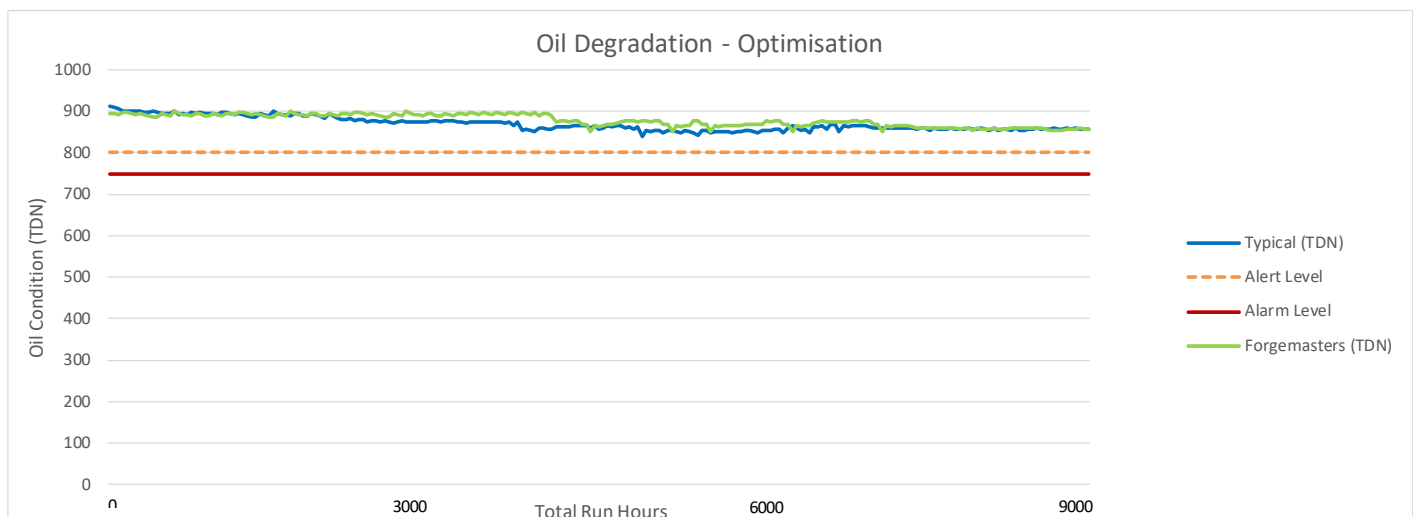
Steve Marshall, Group Engineering Director



Results So Far



The above graph shows the oil degradation on the Forging Press compared with the oil degradation on a typical optimised hydraulic press. This level of oil degradation will contribute towards inefficient operation, excessive wear and a higher than expected rate of costly breakdown and repairs.



The above graph shows the improvement in oil degradation. Forgemasters are now able to rationalise their maintenance practices to ensure the oil is always in optimum condition.

Next Steps

Installing Tan Delta's oil condition monitoring systems will allow Forgemasters to see a substantial reduction in oil sampling and analysis, they will have 24/7 confidence that hydraulic oil quality is always optimised. The monitoring will provide an early warning system for other issues which are often first reflected in an unexpected change in the oil condition; the maintenance team will be immediately aware of this risk and can make informed decisions on the best action to maintain plant productivity. As a result of the ongoing project with Tan Delta, Forgemasters are looking to roll out the project as part of their continual improvement programme, and expect to see significant financial and operational gains in their maintenance process.

The Company

Sheffield Forgemasters has a global customer base and produces a range of products for power generation, offshore oil and gas and material processing industries. Forgemasters play a significant role in the development of new materials and processes and their technical expertise enables the company to spearhead replacement component manufacture. They are a strategic facility within the UK for the manufacture of components for nuclear and defence equipment.

