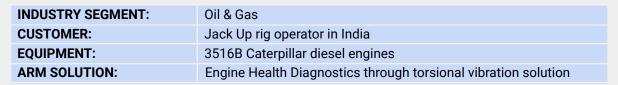


Engine Health Diagnostic Prior to Overhaul saved ~\$52,000 by optimizing the scope of one overhaul





CHALLENGE

 A Caterpillar 3516B engine was due for the 2nd Top End Overhaul as per the OEM recommendation based on the running hours, but the rig owner had a budget constraint

SOLUTION

- Neptunus has been a preferred partner to this customer for engine maintenance across their multiple rigs
- Neptunus' expert advised for pre-overhaul diagnostics using torsional vibration analysis. The objective was to optimize the spare parts list, consumables, manpower and downtime of overhaul
- Neptunus' team went onboard & carried out the engine health inspection through torsional vibration tool
- The report data showed issues with the fuel injection quality and the crankshaft main bearings. Other health parameters were within acceptable limits. Based on this data, Neptunus recommended only a Top End Overhaul instead of a 2nd Top End Overhaul



- The diagnostic findings were reaffirmed when the engine was dismantled for a Top End Overhaul. The hatch marks on the liner & cylinder bore dimensions were observed to be in limits as per the OEM recommendation.
- Engine has been running smoothly for over 6000 hours after the Top End Overhaul

BENEFITS

- Direct savings of ~USD 52,000 due to lesser cost of overhaul. This increased the profitability of the rig.
- We saved 4 days due to the reduced scope (8 days vs 12 days) thus expediting the rig repair project.
- It allowed the rig and technical teams to focus on the core drilling operations rather than worry about the uncertainty of engine reliability.