

**Cost-effective
Pump Repairs,
with Innovative
Solutions!**

Case Study Overhung Vertical In-Line (OH5)



Duty & Fluid	OEM & Designation	Materials
Reclaimed Oil Pump Rec. Oil/Prod. Water	Flowserve PVXM 14-14F	Super Duplex S.Steel API D2

Challenge

Flowserve PVXM Vertical In-Line unit from late-life Operator. Pump suffers from heavy erosion in the high velocity, wetted areas of the pump due to sand particulate in the Reclaimed Oil/Produced Water mixture with some units requiring repair ahead of planned schedule.



As received from client



Wash on casing cover through to Mechanical Seal stud holes, creating a leak path and an early failure



Solution

Pinnacle Re-Tec took the failure and other evidence of material degradation and proposed an upgrade to increase MTBF. Our design team proposed Tungsten Carbide coatings to extend pump life; upgrading the casing wear rings, throttle sleeve and stuffing box bush. The new backplate manufactured and the re-used impeller and diffuser were also coated in Tungsten Carbide to improve wear resistance.



Casing covers and diffuser manufactured in Super Duplex & finished with HVOF Tungsten Carbide



Impeller "line of sight" coated all over in HVOF Tungsten Carbide

Benefit

By reverse engineering and manufacturing new parts in-house, Pinnacle Re-Tec offered the customer a more economic parts solution compared to the OEM, whilst still offering OEM equivalent guarantees. Introducing Tungsten Carbide coatings to high velocity, wetted areas as well as the running surfaces, Pinnacle Re-Tec have eliminated the risk of early onset heavy erosion due to sand particulate in the Reclaimed Oil/Produced Water medium.

Result

Pinnacle Re-Tec has provided the customer with a solution fit for purpose. The operator has seen a significant increase in reliability and MTBF of this unit in a sand laden Reclaimed Oil application. The overall Pump repair to the customer was cheaper and faster than the OEM offering. The customer has since ordered several sets of upgraded parts as well as complete new reverse engineered pump.

To see how Pinnacle Re-Tec can help you with cost effective pump repairs and innovative solutions to increase MTBF please call us on 01207 588 731 or email info@pinnacle-re-tec.co.uk