

Expro Excellence

Expro tames “The Leopard”

DST - TCP



Customer challenges

- In 2019, Total EP South Africa (TEPSA) embarked on planning for the appraisal of a discovery offshore South Africa, in the Outeniqua basin - which required specialist services to overcome the extreme conditions in this remote frontier to test a well they named “Luiperd” (Leopard)
- Operations would be performed from a DNV Class MODU which would be operating with marine riser angles/bend beyond the limitations of standard subsea landing string test tool assemblies (SSTTA). In 1600m water depth, with windspeeds up to 60 knots, significant wave heights averaging 4-8 meters, frequent rogue wave events and extreme, fluctuating currents up to 4 ½ knots; the almost unprecedented environmental conditions would require tensioning units to be employed to prevent the marine riser from contacting the rig structure
- The well test performance and collection of data would be given no margin for error – with only one chance to get it right the first time
- The project would need to be performed in 2020, during the peak of the global COVID-19 pandemic
- Following an assessment of service providers, Expro was selected by TEPSA and entrusted with provision of all critical appraisal testing services including: Well Testing, Subsea Landing String Services, DST, TCP and Fluids Sampling and Analysis

Expro Excellence

- Expro supported the entire project for TEPSA with a ‘One Team’ approach, acting as the lead testing integrator. Our expertise in high-rate Well Testing, Fluid Sampling and Analysis, quick response Subsea safety control systems, DST and TCP were all critical to project success
- Complementing its recognised best-in-class electrohydraulic ELSA™ SSTTA; Expro’s subsea centre of excellence completed an intensive series of unprecedented high-angle SSTTA disconnect/reconnect trials, as part of TEPSA’s acceptance programme
- Simplicity and robustness were key to the DST design: the Expro DST string was engineered to be single trip, high integrity and ‘intervention-less’.
- Incorporating the EXACT fast acting tester valve (with no wait time between functions); the system was complemented with backup wireless tools for reservoir isolation and troubleshooting
- Expro’s expertise in Fluid Sampling and Analysis was critical to successful characterisation of the reservoir; including the unique ability to capture trace elements such as Mercury and Sulfur with **truly (scientifically proven)** representative bottom hole sampling – utilising our latest Non-Reactive Sampler (NRS™) technology
- Luiperd proved to be a world class discovery for TEPSA in an extremely challenging, remote location - with operations executed during a worldwide pandemic
- A dedicated Expro Project Manager in country ensured the combined, integrated services were efficiently managed from all engineering, planning and qualification stages – through actual performance of well test operations
- Expro’s leading **Wet Gas Meter** technology may reduce the overall cost of developing Luiperd, by removing the inherent inaccuracy in conventional gas meters’ inability to properly account for gas condensate ratio. The ability to properly quantify Mercury, Sulfur and other trace elements – captured by the NRS™ - will further ensure an accurate estimate of production requirements
- Full **real-time digital integration** (Data to Desk) ensured information was simultaneously shared with TEPSA’s onshore and international teams, allowing optimisation of the well test to ensure objectives were met during critical operating windows - where every minute of rig time counted
- Deteriorating weather conditions during operations required emergency unlatch of the SSTTA to de-couple the rig from the DST string, while maintaining well integrity. The earlier rigorous disconnect/reconnect trials were then applied in real-world conditions. After more than 30 hours of riding-out extreme weather; the SSTTA successfully re-latched and well test operations were completed, achieving all objectives appraising TEPSA’s newly discovered Luiperd well

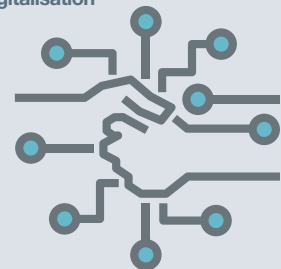
Value to the client



The excellent preparation of the DST, particularly the SSTTA and the associated challenges in such an harsh environment, and the teamwork have contributed to the success of this entire project allowing the DST to be safely and efficiently conducted”

Well Specialties / Testing Manager
Total

Digitalisation



Contact

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