EXPRO

Expro Excellence

Optimisation of gas lift network performance

Flow Surveillance

Objectives and background

- Artificial lift (gas lift) optimisation for an unmanned platform in a mature field in the North Sea

- The customer was calculating gas lift injection rates based on the choke size, with no actual volumetric measurement

- Expro was approached to confirm the validity of the calculated gas lift injection rates for well performance modelling

- The customer wanted to inject gas at different rates by adjusting the choke size to verify if the produced oil rates were optimised by observing Tubing Head Pressure (THP) and the oil rate

Expro Excellence

- Expro mobilised one field technician and one meter set to complete the operation, highlighting how compact, flexible and how easily mobilised our system is

- Expro performed a surveillance campaign moving a 2-inch ActiveSONAR meter to test 6 different gas lift injection lines

- The injection choke sizes were adjusted from 100% to 25% to determine the optimal gas lift rate

Value to the client

- Each well was successfully tested within a 24-hour period, including rig up, multi-rate choke test and rig down

- SONAR meter diagnostics indicated unstable gas flow in all 6 lines at the higher choke settings. This insight confirmed there was insufficient gas supply leading to suboptimal performance of the injection network and associated loss of net oil production

- SONAR meter diagnostics indicated that there was wetness in the lift gas system which prompted the customer to perform maintenance on the upstream dehydration plant

- 5 of the 6 wells were successfully tested at multi rates. One well had a change in choke size, but this did not yield any change in gas lift rates or associated production rates which indicated that the choke was non-functional and prompted the customer to perform maintenance

- Expro was able to optimise production improving overall oil production, identify plant issues and assist the customer with improving gas lift modelling

Insight

Contact

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