FOUR PHASE

Case Study

DualFlow

UK North Sea
2023
FP - 1135

Optimisation of a shut-in sand producing well using a DualFlow and MPFM
UK North Sea, July 2022

1 600 bbl/day	2 + 2	Zero	7 MMscfd
Oil production	POB	HSE Incidents and manual handling	Gas Production

Challenge

An Operator in the UK North Sea had a well shut-in for many years due to sand production. The Operator wanted to reinstate the well and use a solids management system to remove any solids at surface.

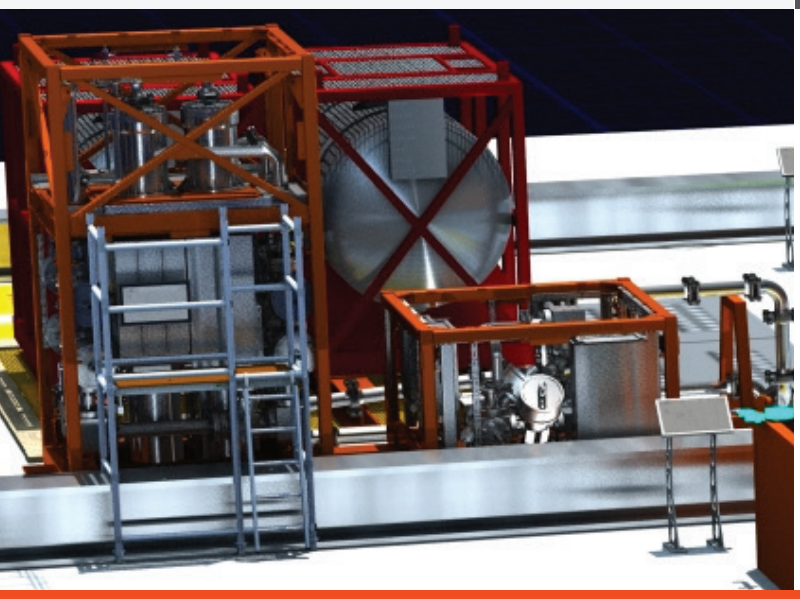
The aim was to determine a sand rate for the well that was acceptable to the platform. Further evaluation of economics would be required to determine if an increase in (solids free) hydrocarbon production was sustainable with a permanently installed solids management system.

This would include carrying out drawdown diagnostics on the well by slowly increasing the production rate to understand the corresponding separated solids weight at the different rates.

Solution

FourPhase delivered a complete flowback solution. The system provided ensured well control and drawdown diagnostics of all four phases in real-time. With all products integrated to the same control system, FourPhase safely operated all equipment remotely from the control container with a personnel requirement limited to two operators per shift.

Products delivered included:
DualFlow desander 5Kpsi, 5K choke, Multi-phase Flow Meter (MPFM), RockCatcher, super duplex pipework, 2 x Surface Safety Valves (SSV), control container and a gas detection system.



Result

The shut-in well was safely brought back to production. All four phases were mapped to understand the optimal production rates the platform could handle and without risk of solids reaching the process.

The results from the multiphase flow meter confirmed the expected well flow numbers. The cyclonic DualFlow handled the slug flow while different choke settings were tested.

The optimum hydrocarbon production and associated choke position v sand production was identified. The well was then handed back to the platform operations.

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