

CASE STUDY

Array PLT survey accurately pinpoints water shut-off location and leads to estimated gain of 900 BOPD (USD 22M p.a.)

THE CHALLENGE

A multi-national operator was experiencing increasing water production in a highly deviated well. They wanted to identify the appropriate zones for water shut-off operations.

Due to the high deviation, high water cut and stratified flow regime, conventional PLT technology would have been unable to resolve the small volume of hydrocarbons flowing on the high side of the well, as well as the relevant entry points.

The client therefore engaged with us to develop a solution that would deliver more accurate and insightful results.

THE SOLUTION

We proposed two runs utilising the industry-leading Multiple Array Production Suite (MAPS) technology. The first run would perform an initial assessment and identify which zones to close. We would then confirm the results by re-running the PLT after SSD manipulation to shut off the water producing zones.

We deployed the MAPS tools in memory mode on coiled tubing. This provided a comprehensive 3D image of the multi-phase flow profile across the entire well bore.

Our in-house ANSA team of qualified and highly experienced analysts used the data acquired to deliver an interpretation solution in just four hours.

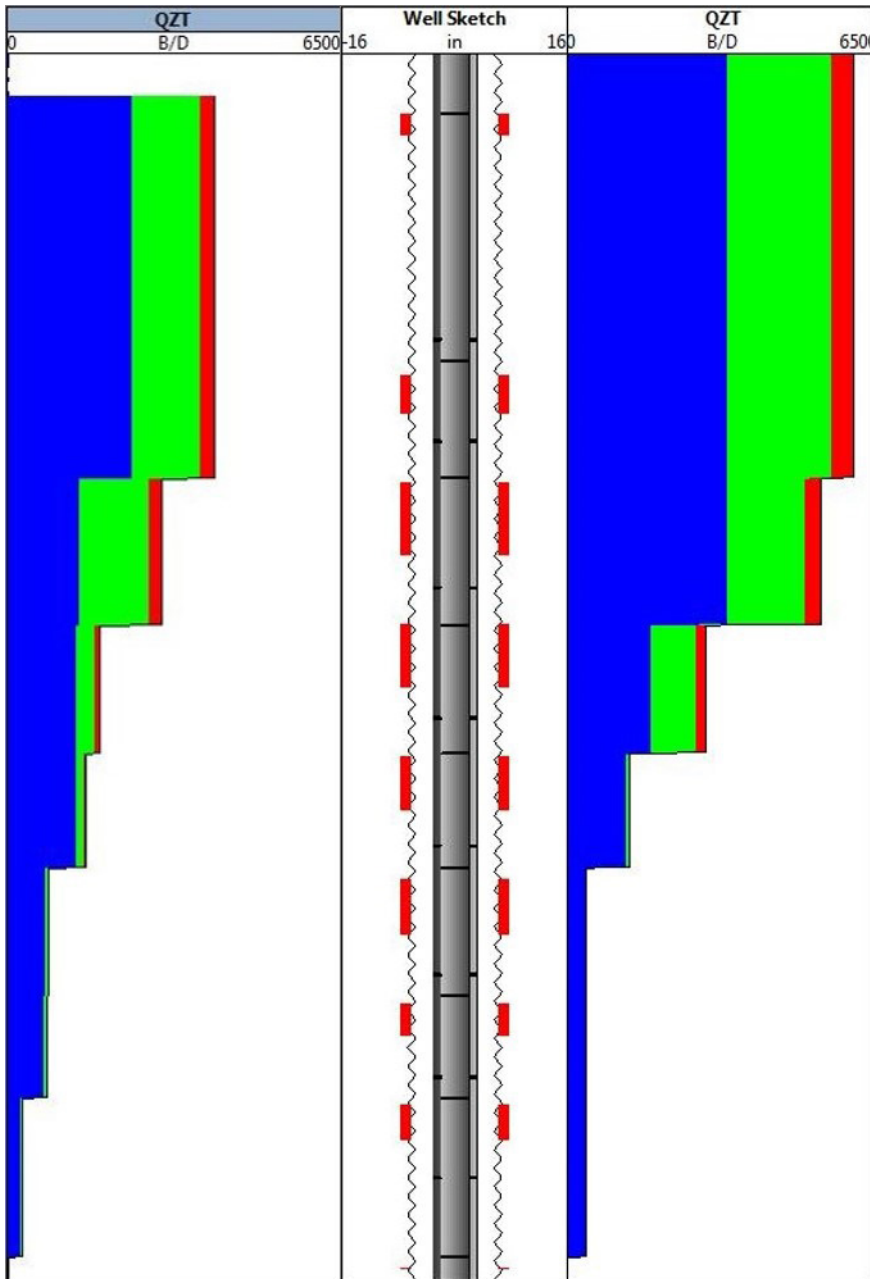
They were able to identify the water producing zones with no associated oil production and recommend which sleeves to close to reduce water whilst maintaining oil.

CLIENT OVERVIEW

A multi-national operator
North Sea mature field

SERVICES

- Multi Array Production Suite (MAPS) PLT
- Fast Turn Around (FTA) data interpretation



Pre- and post-SSD shift rates illustrate increased oil production at surface after zone closure.

- Water production
- Oil production
- Gas production

THE RESULTS

The client was able to identify the water entry points and take appropriate action for remedial water shut-off.

Our expert fast turn around data analysis enabled them to make quick decisions with confidence on which inflow devices to close.

READ's recommended actions led to a 150% increase in hydrocarbon production due to pressure redistribution after zone closing.

Although some water producing zones had been isolated, the redistribution of pressure caused a substantial increase in production from adjacent zones. This resulted in an estimated net gain of 900 barrels of oil per day, but also returned the water to pre-shift rates.

KEY RESULTS

- 150% increase in hydrocarbon production
- Estimated gain of 900 BOPD (USD 22M p.a.)
- Expert data interpretation

“With READ’s logging expertise and qualified data analysis, we achieved a significant improvement in sustained oil production. Their collaboration and communication with us throughout was impeccable.”