

Wyitch Farm M20 Well Breaks 2 Records

Wells Directorate / Mobiles Team / Wyitch Farm D & C



Success Story

Event

The M20 ERD Sidetrack was planned as a water injection well targeting the South East offshore area of the Wyitch Farm field. The absence of suitable nearby donor wells required the delivery of the longest 8-1/2" sidetrack drilled at Wyitch Farm to reach the objective. Due to the large step out from the motherbore the well was planned with an 89 degree tangent angle through the overburden Mercia mudstone for 4,500m prior to reaching the top Sherwood reservoir target. In total 4839m (15,900ft) of near horizontal hole was drilled.

To prevent wellbore collapse in the Mercia mudstone during water injection, a 4,567m long 7" liner was floated across this interval.

Challenges

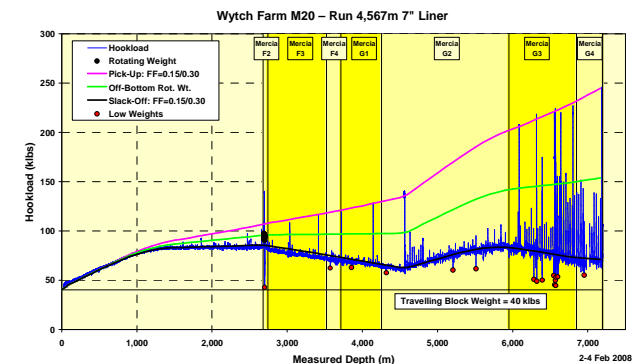
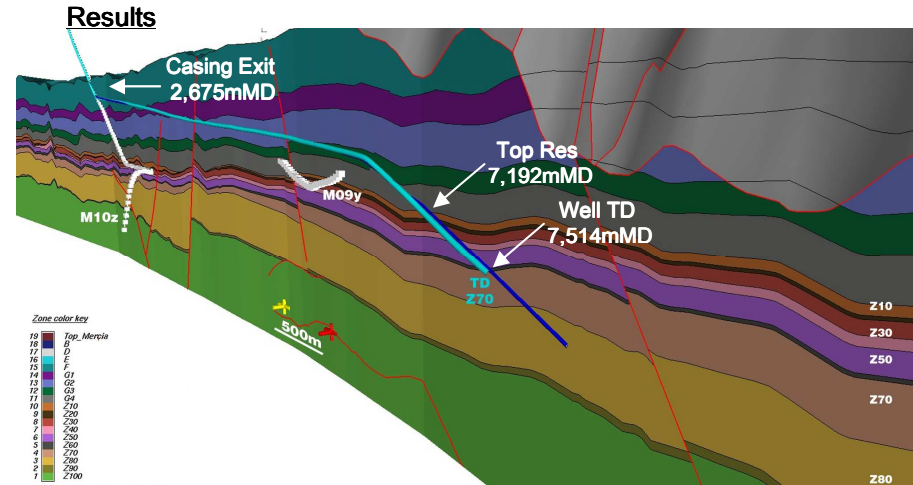
- Hole cleaning problems in long horizontal section – ensuring that the long overburden section was clean prior to running liner
- Losses in the Sherwood reservoir after drilling into a fracture
- Longest 7" liner floatation run, contingency planning

Keys to Delivery

Ensuring that previous ERD lessons learned were incorporated into the well design. Ensuring that the rig site team were fully engaged in the programme and aware of the risks.

Rigorous Engineering - extensive planning work and modelling was carried out to confirm liner floatation was possible and that sufficient contingency was built into the plan.

The design allowed for liner rotation at all times and friction factors as high as 0.30/0.40. Function testing of all down hole equipment was carried out. Involvement of EPTG in floatation design and inclusion of lessons learned from BP and other operators. Close involvement of service companies (Weatherford / Baroid) and rig contractor (Boldon) at early stage in the planning process.



- World record 7" liner floatation length
- BP Record Horizontal Well Length – 15,900ft
- 7" Liner successfully floated into well – hookloads as planned
- Well delivered ahead of AFE time & cost
- Longest sidetrack drilled at Wyitch Farm – 4,839m of open hole
- Longest distance drilled in Mercia at Wyitch Farm by 50%
- First BP casing floatation job for 8 years
- HSE – no incidents, no spills
- No liner running or setting NPT
- Well successfully injection tested to 29.5mbd (limited by rig pumps)