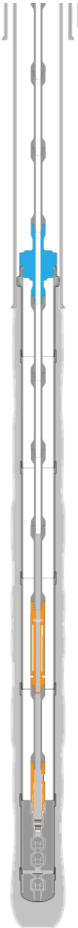

Inner string cementing system enables optimised cement placement and bonding to meet long term-well integrity objectives in CCS wells

SeaCureRS with BondCure®

- Zero shoetrack
- Avoid TD drilling risks
- Maximize reservoir access
- Avoid clean-out trips
- Deliver zonal isolation integrity
- Full wellbore circulation post cementing



Ultimate Cement Bonding with BondCure®

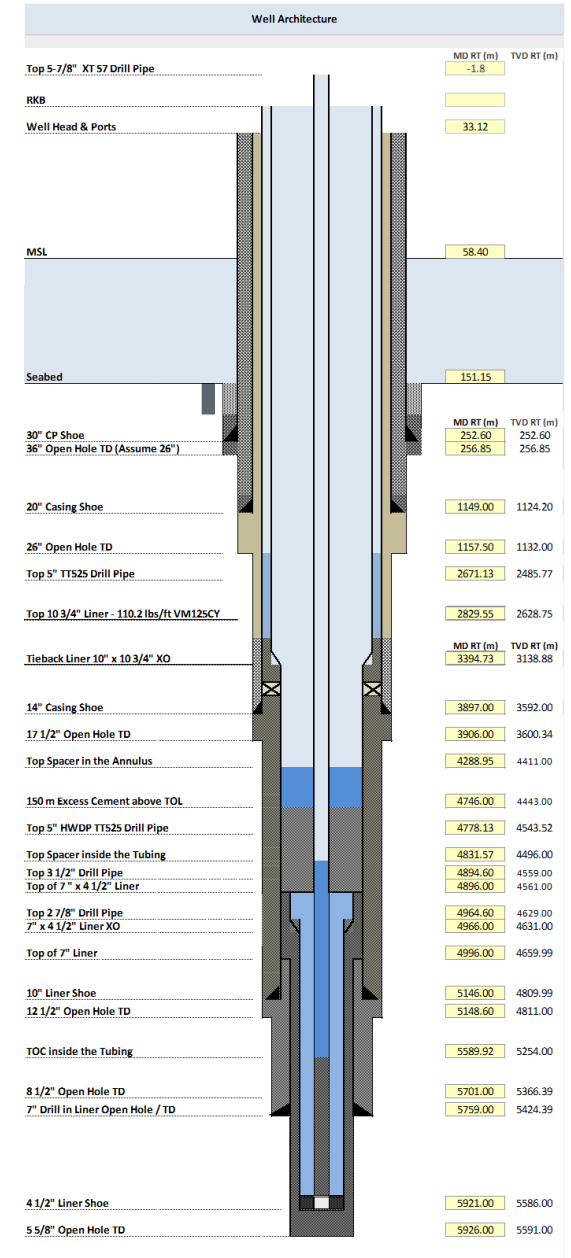
Challenge

North Sea operator wanted to optimise liner shoetrack to avoid challenging drill out with small BHA at high temperature (390degF) whilst enabling for optimal primary cementing placement and providing zonal isolation for reservoir liner section

Solution

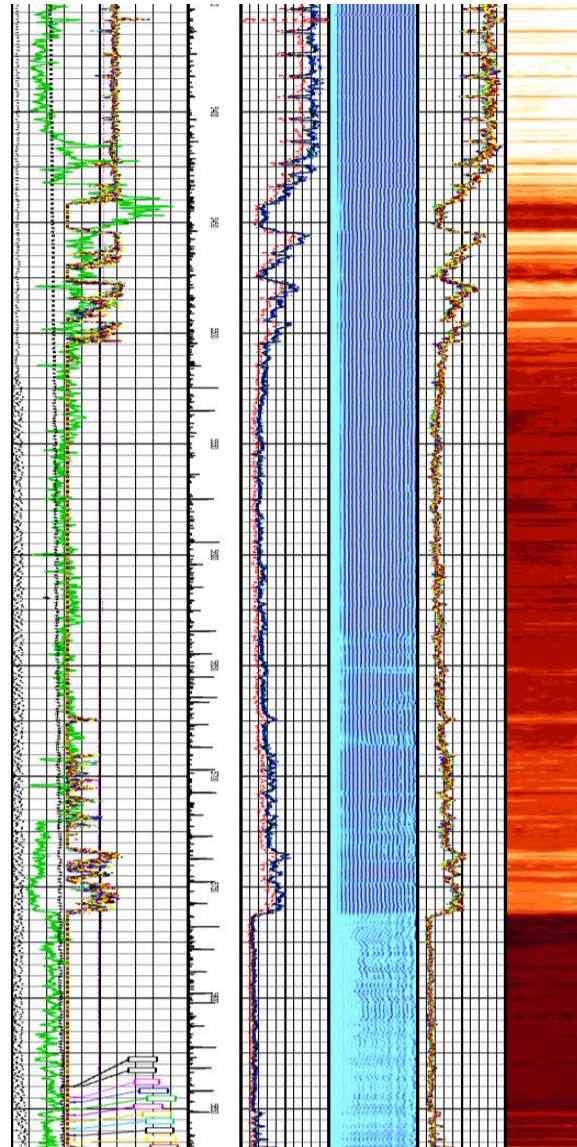
Combined solution with SeaCureRS and BondCure® which delivered a 1.2m (3.9ft) shoetrack and slurry mechanical separation to the shoe.

Optimization of fluid sequence by using 1.0sg spacer inside the liner while cementing with a 1.92sg slurry to create a negative radial pressure of ~1,340psi while setting liner packer.



CBL Results

- Quality primary cement job with perfect CBL results due to optimized cement placement and fluids sequence .
- Optimized 1.2m shoetrack solution
- No clean out trips required
- Post cement job full wellbore circulation with work string already at TD



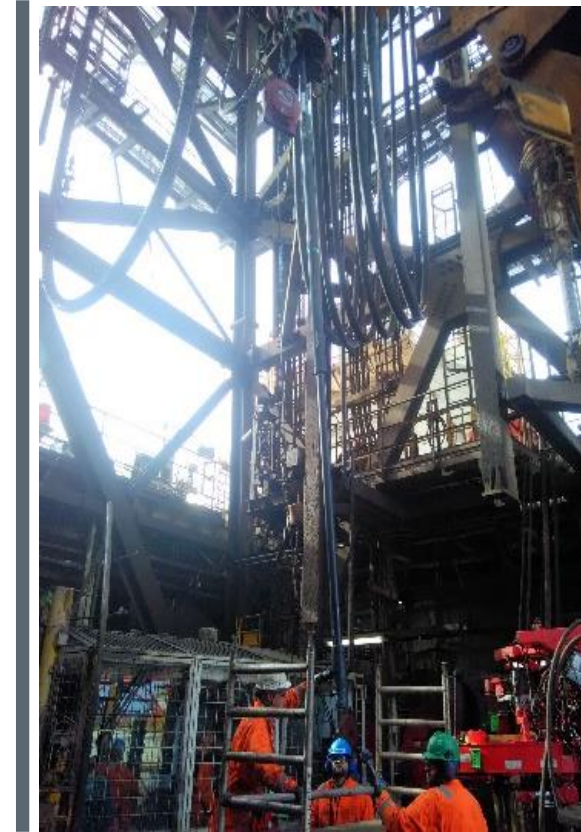
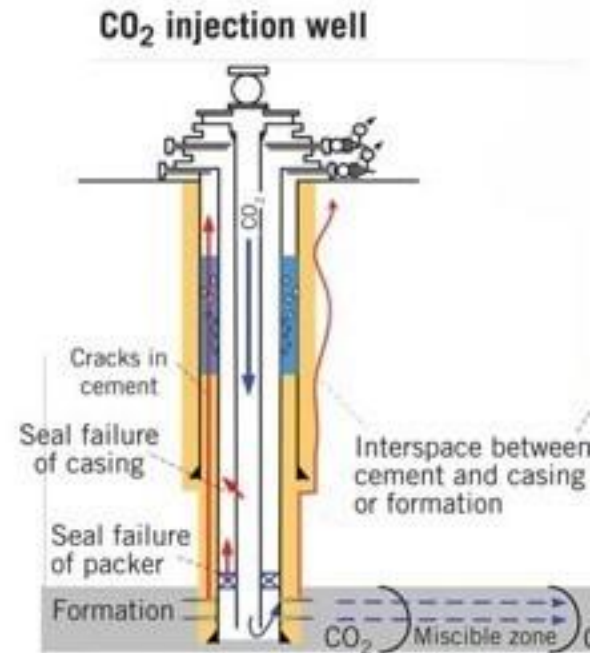
← TOP of Good 4.5" liner Bonding 5423m

← **7" shoe**
Bonding of 4.5" liner inside double casing showing slightly higher amplitudes

Relevance to CCS Wells

- Storage of millions of tons of CO₂ over multiple decades
- Requirement to monitor wells for up to 50 years
- Long term well integrity is key
- Cement sheath de-lamination risk is high due to low injection temperature
- 790 wells (29% of UKCS well stock) are shut in currently - the majority of which are due to sustained casing pressure (NSTA)

POSSIBLE GAS MIGRATION PATHS



Thank you

Any questions?

