

CHALLENGE

A Major North Sea operator requires scale-free sections of tubing for plug set and tubing cut prior to pulling the completion. Calcium carbonate scale (CaCO₃) forms inside the tubing and is very difficult to remove using mechanical or chemical methods. This objective was previously achieved from a jack-up rig using coiled-tubing and jetting technology (fluids & abrasives). The operator had previous success using WASP® to remove scale from other completion hardware, so decided to use WASP® to clean sections of the tubing.

HIGHLIGHTS

Workover operations
Tubing scale

LOCATION

North Sea

CONDITIONS

Treatment Depth: 5,800 ft (1,770 m)
Treatment interval @ 30° deviation

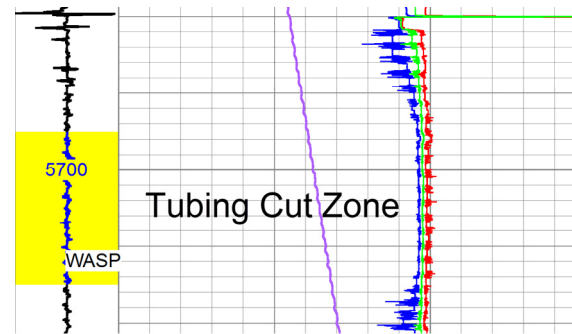


Scale Removal

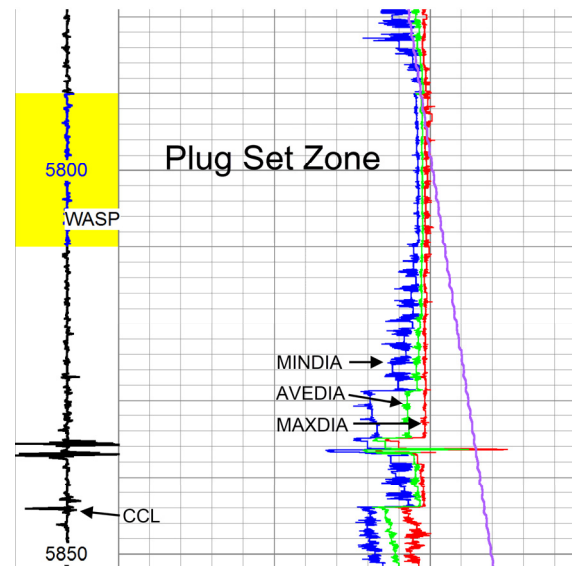
OUTCOME

- The caliper log confirmed that the WASP® had completely removed the CaCO₃ scale from the inside of tubing over the two treated sections
- The plug was successfully set and pressure tested, followed by a successful tubing cut, both in the zones treated by WASP®
- Coiled Tubing was not required, eliminating the cost of that service – mobilisation, rig-up, rig-down and reduced crew
- Reduction of 8 days of jack-up rig time, as the WASP® operation was performed offline

Scale successfully removed from tubing while saving 8 days of rig time



Post-WASP Caliper Log



SOLUTION

Remove CaCO₃ scale from sections of tubing using electro-hydraulic stimulation technology

- The Blue Spark WASP® 275 (Wireline Applied Stimulation Pulsing) tool was deployed on the operator’s preferred wireline provider’s E-Line from the platform, prior to the jack-up’s arrival
- Two 20 foot intervals (6 m) were treated in one wireline run in less than 4 hours of treatment time. Total operating time was 48 hours.
- A caliper log was performed on wireline to verify the scale removal

