

RIGLESS INTERVENTIONS IN SIDETRACKS AND MULTI-LATERALS

THE WELLTEC LATERAL INTERVENTION TOOL[®]



The Welltec Lateral Intervention Tool[®] (WellLIT[™]), developed in cooperation with Saudi Aramco, has been designed to address the challenges of intervening in multilateral, Maximum Reservoir Contact and Extreme Reservoir Contact wells. This is the first industry tool that consistently and reliably allows re-entry into laterals.

Function

The WellLIT[™] provides access to lateral sections by detecting the lateral window, shifting a steerable joint and directing the toolstring in the correct direction. It's diagnostic section distinguishes between the lateral and main bore while a wireless connection between the bottom most steerable joint and the upper detector sections enables 3rd party, e-line tools to be run in combination.

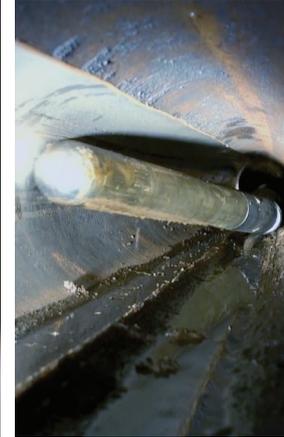
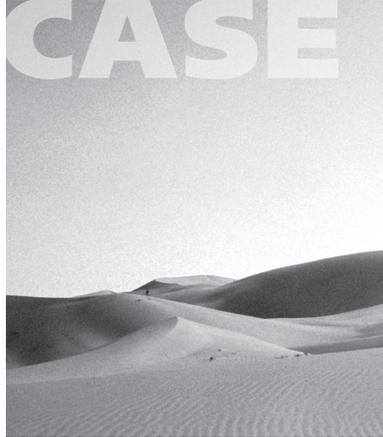
Value for operators

- Greatly reduced intervention time and cost
- Enhanced ultimate recoverables by accessing the problem wellbores
- Improved well management through acquiring data and performing intervention operations
- Better understanding of production/injection program
- Improved well management
- Confidence that interventions will be possible in more complex, multilateral well designs
- Enables lightweight interventions

Specifications

Body tool OD: 2 1/8"
Length: 32 feet
Weight in air: 220 lbs
Max well pressure: 20,000 psi
Max. well temperature, up to: 257° F
Min. deviation: 30°

ONS2014 **NOMINATED**
INNOVATION AWARD



Entering three OH laterals

The first significant operation with the WellLIT™ took place in Saudi Arabia in January 2014. The well was a 6 1/8" oil producer with six OH-OH laterals located in the horizontal section. The OH section in the mother bore extended from 5,807 - 15,700 ft. CT simulations had indicated that 2" CT with friction reducer would lock up in three of the laterals without covering any length of them; about 30% could be logged in the fourth lateral whereas the remaining two laterals should be accessible to total depth (TD).

Two runs were planned; first a drift run to either TD or CT lock up point and then a logging run to convey a 3rd party PLT into both the main bore and the three accessible laterals.

Achievements

Time in well was almost 57 hours with the WellLIT™ being operated for little under four hours. The toolstring entered and exited three different OH-OH laterals several times during the operation without hanging up. Both the drift run and the logging run were successfully accomplished and the laterals were accessed within the first 200 ft. Thus the objective of producing a unique signature of the well bore to confirm that the toolstring had moved to a different wellbore was clearly met.

Well data

Bottom hole temperature: 166°F
Bottom hole pressure: 2241 psi
Max. deviation: 91°

Tools applied for this operation

Well Tractor®
Welltec Lateral Intervention Tool®
(WellLIT™)

Welltec®