

# Organophilic Water-Based Reservoir Drill-In Fluid System Quadruples Production, Middle East

FLOTHRU system improves average ROP and prevents acid treatment

**FLOTHRU\* organophilic water-based reservoir drill-in fluid system enabled an operator in UAE to improve average ROP to 79–88 ft/h from 33–55 ft/h, reduce invisible lost time by 79 h/well, and increase productivity index of two wells to four times that of previous wells that received acid stimulation. By eliminating the need for acid treatment, the system reduced well construction time and improved safety.**

## Improve productivity

The operator wanted to improve productivity in two wells in a field with an average productivity index of 1.06 bbl/d/psi, an average reservoir openhole length of 7,000 ft, and an 88° inclination. A bottomhole temperature of 275 degF was not ideal for using an acid treatment solution or a filtercake breaker system. Because of the barefoot completion used in the well, the reservoir section could not be isolated during the upper completion after placing the breaker or acid. This generated loss of treatment into the reservoir without dissolving the filtercake.

The operator could either change the completion design or switch to a system that did not require treatment. Previous wells drilled with commodity reservoir drilling fluid (RDF) showed poor productivity index in tight reservoirs. The operator initially attempted to stimulate some wells with 8,000 bbl of 15% HCl solution with limited to no improvement of production.

## Promote hydrocarbon flow

THRUCARB\* very fine organophilic bridging agent and THRUTROL\* organophilic filtration control additive promote hydrocarbon flow through the filtercake and lower flow initiation pressures.

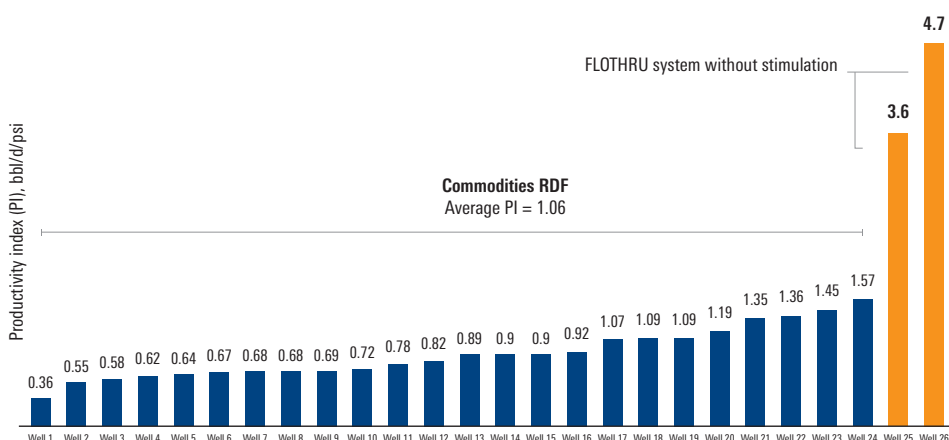
## Increase production and eliminate acid treatment

The operator used FLOTHRU system to drill 7,000 ft of the 6-in section. At terminal depth, FLOTHRU system was sieved while backreaming to remove large particles, and THRUCARB agent was added to minimize settling during an extended static period of 30 days and to maintain density of the system. FLOW-BAK\* surface tension reducer was added to reduce flow initiation pressure.

FLOTHRU system helped improve average ROP to 79–88 ft/h from 33–55 ft/h and reduced invisible lost time by 79 h/well. The wells were each drilled in one run without any related fluid problems. FLOTHRU system helped increase productivity index of two wells to four times that of previous wells that received acid stimulation. The flowing pressure on the multirate test at two different choke sizes showed the wells were producing above bubblepoint pressure with higher production gain compared with nearby wells. FLOTHRU system increased effective production well length to 88% from 30% in previous wells. The system enabled the operator to drill the 6-in section faster than previous wells and eliminated acid treatment, which reduced well construction time and improved safety at the field location.

**“As the excellent result was realized, the FLOTHRU system is being capitalized for all tight reservoir wells to improve the production and drilling performance.”**

Senior Drilling Fluid Engineer



*FLOTHRU system helped an operator quadruple productivity in UAE compared with previous wells that used acid stimulation.*

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