

# Sta-Live Extreme acid system increased oil production by more than 1,000 BOPD in high-temperature dolomite formation, Middle East

## CHALLENGES

- Stimulate a long horizontal well (5,200 ft) with inflow control device (ICD) completion
- Efficient stimulation at high temperature conditions (> 275°F)
- Dolomite formation with permeability less than 3 md
- Previous interventions with emulsified acid -competitor fluid did not provide any incremental production

## SOLUTION

- Sta-Live Extreme™, a polymer-free, single phase delayed acid system optimized for formation lithology, temperature, and formation fluids provided extended penetration into the reservoir
- Bullheaded treatment with low acid volume (23 gal/ft) was recommended.
- The acid technology incorporated Baker Hughes Matrix Acidizing software, which provided an engineered solution
- Divert HT, Baker Hughes polymer-free diverter was also recommended for zonal coverage

## RESULTS

- Increased oil production by more than 1,000 barrels of oil produced per day compared to zero incremental production from previous interventions using emulsified acid and competitor fluid
- Penetrated deeper into the formation and improved zonal coverage of the long horizontal well with pumping rate of 20 bpm
- Improved operational efficiency by reducing mixing time by 16 hours compared to the required mixing time of conventional emulsified acid in offset wells
- Eliminated the need for a diesel phase and its associated HSE concerns
- Eliminated the risk of mixed emulsified acid disposal in case of job delays

Baker Hughes solution was integrated with laboratory testing of Sta-Live Extreme acid technology.

At 275°F, Sta-Live Extreme was able to completely penetrate a 20-in. long carbonate core. With equal volumes, emulsified acid penetrated only 65%, while regular HCl penetrated only 25%.

