

— CASE STUDY: COLOMBIA

# Baker Hughes production solution increased hydrocarbon recovery and reduced effects of sand within pump stages

## CHALLENGES

- Heavy sand production resulting in pump plugging and frequent ESP shutdowns (10x or more per month)
- Limited pressure at intake (1,030 psi)
- Restricted frequency (45.6 Hz max)
- Overconsumption in the motor current (due mainly to solids) resulting in ESP shut downs

## SOLUTION

- Careful screening to select the optimal [FORSA™ flow assurance chemistry](#) (WAW3037 sand dispersant) and dosage
- Injection program of a FORSA WAW3037 sand dispersant (fully compatible with surface production chemicals) to encapsulate the sand and help:
  - Avoid decantation and sand plugging inside the pump stages
  - Lift sand to surface rather than letting it accumulate downhole

## RESULTS

# 100 BOPD

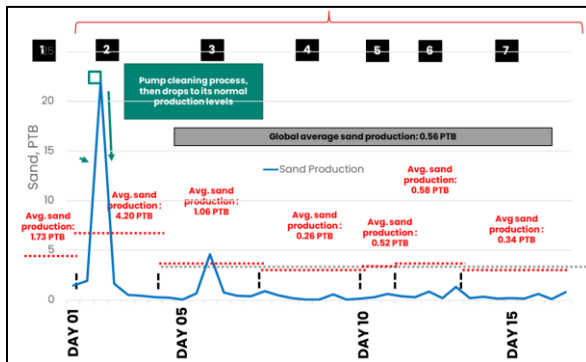
approximate production increase

# Zero

ESP shutdowns due to poor solids handling and fewer pressure cycles

# 6.6%

increase (45.6 to 48.6 Hz) in ESP system frequency to allow more efficient operations and greater lift



Continuous injection of the WAW3037 sand dispersant during the field test helped minimize sand production and improve ESP performance.