

# Solution to reduce failure risk in wells with high solids content

## Challenges

- High solids content in the well
- Frequent pump breakdowns due to abrasive wear
- Downtime associated with flushing the submersible pump

## Results

- Reduced risk of equipment failures by 40%
- Steady operation against the solids content of up to 2,000 ppm (2,000 mg/l)

**One of the major complicating factors in the artificial lift is the high solids content accelerating wear and reducing equipment performance.**

**Our solution based on the Lex Ultra-High-Speed ESP (UHS ESP™) provides sustained performance of equipment at a solids content of up to 2,000 ppm (2,000 mg/l).**

During the well operation, mechanical impurities are carried out from the formation into the well with the fluid. These solids are abrasives of reservoir rock, salts, unfixed proppant, solid inclusions from killing fluids, and corrosion products of downhole equipment.

Often, solids emissions have a volley nature, and the content of such solids may reach ultra-high values. The solids, getting into the pump, subject it to abrasive wear, clog the operating devices, block the movement of the shaft and lead to its breakdown.

To prevent the negative impact of solids, expensive wear-resistant equipment, upstream devices, and regular flushing of a submersible pump are usually used, causing the equipment idles. So, oil companies lose production and potential profits.

Our solution is based on modular design Lex Ultra-High-Speed ESPs (UHS ESP™) using hard alloys and ceramic friction pairs to provide steady operation against the solids content of up to 2,000 ppm (2,000 mg/l), 4 times more than

the limits set forth for any standard equipment.

Implementation of our solution reduces by 40% the risk of equipment failures, unforced downtime for workover, and potentially production loss.