Operator Increases Production by More Than 100 bbl/d After Pumping OneSTEP GP Fluid Through ESP

Matrix stimulation treatment saves operator time and USD 280,000 in workover costs

CHALLENGE
Re-establish production in a formation damaged during workover operations without the additional time and cost of replacing the ESP.

SOLUTION
Pump OneSTEP GP* formation damage removal gravel-pack fluid through ESP to remove formation damage caused by fines migration and stabilize the clays.

RESULTS
Increased production by more than 100 bbl/d, saved USD 280,000 in workover costs, and restored normal function to the ESP.

Failed ESP prompts recompletion of well four months later
In April 2012, an operator completed a well in a sandstone formation, however, the ESP failed four months later. The well was recompleted in August 2012, producing at a much lower rate than prior to the workover and the production continued to decline. Based on this decline, the operator determined that the formation had been damaged during the workover and that fines migration was also limiting production. Nearly one year after the well was initially completed, the ESP was stopped because of overheating and the low fluid level in the well.

Historically, stimulation treatments performed through ESPs are usually unsuccessful because nonreactive fluids are used to avoid damaging the ESP.

Chelant-based fluid system eliminates need for pre- and postflushes
OneSTEP GP fluid was selected to remove potential formation damage caused by fines migration and to stabilize the clays to avoid further fines migration. OneSTEP GP treating fluid is a chelant-based fluid system developed specifically for stimulating sandstone reservoirs, as a standalone treating fluid, eliminating the need for pre- and postflushes.

Stimulation through the ESP was performed to minimize workover cost and time. The treatment was pumped through CT, located just above the ESP.

OneSTEP GP fluid increased production by more than 100 bbl/d
Damage to the ESP was minimized by implementing the less corrosive OneSTEP GP fluid with a pH level of 5.5, maximizing long-term production. The matrix stimulation treatment was performed in only one stage, and required less total volume when compared with conventional treatments, which require preflushes and low-pH acidic fluids. As a result of the treatment, the operator saved USD 280,000 in workover costs, the ESP performed as expected, and production increased by 100 bbl/d.