NOVOMET

CASE STUDY

Slimline ESP saved an underperforming well, made it a top producer in the field

CHALLENGE

A well with high dogleg severity was producing only 10 BOPD with a rod lift system, making the well uneconomical for the operator to produce.

SOLUTION

319-series SlimLine ESP used to navigate through doglegs and position the intake closer to perforations.

RESULTS

- Saved new well from being plugged and abandoned
- Increased production by 610%
- Delivered over 330 days of production at the time of publication

Cody, Wyoming, USA

High dogleg severity crippled rod-lift production

An operator in Cody, Wyoming had a well that had been drilled with a dogleg severity of 10.77° per 100 ft (30.5 m). The production plan called for installing a rod lift system. Well deviations were so severe that the side loading made the system inefficient, and the rods were causing unacceptable levels of wear on the tubing.

The operator was forced to land the sucker rod pump shallower than desired at just 4,750 ft (1447.8 m), placing it above the liner in only 100 ft of fluid. When they turned the well on, it was producing only 10 BOPD. At that production rate, the well was not economically viable and would need to be abandoned or converted to an injection well.

SlimLine ESP increased production by over 600%

The operator turned to Novomet because it is the only oilfield services company with equipment that could fit into the wellbore. After reviewing the well plan and records, we deployed our SlimLine 319-series electrical submersible pumping (ESP) system. Its 3.59-in. outside diameter (OD)—including space for the motor lead extension—was slim enough to fit through the deviations in the 4.5-in. casing, and its ability to produce relatively low flow rates was ideal for the well.

319 series SlimLine ESP increased production 610%, continues to operate at 330 days.

Including the permanent magnet motor, pump, protector, intake, and all other ESP components, the entire tool length was just over 46 ft (14 m). The SlimLine OD and short length enabled us to land the ESP deep inside the production liner at 5,640 ft (1719.1 m) measured depth under 990 ft (300 m) of producible fluid.

When the ESP was commissioned, production jumped to 71 BOPD, giving the operator a 610% increase in oil production. At the time of this publication, the SlimLine ESP had been in the well and pumping for over 330 days.

The SlimLine 319-series ESP transformed a well that would have been an economic failure into one of the most profitable wells for the operator in the field.

SlimLine ESP facts and figures

SlimLine 272- and 319-series ESP systems from Novomet remain the only offerings of their kind. They can be run in wells with inside diameters as low as 3.3 in. and they are ideal for highly deviated wells with 4.5-in. casing.

The SlimLine ESP uses pump stage designs that deliver up to a 20% increase in efficiency, and permanent magnet motors shown to increase efficiency 15% compared to asynchronous induction motors. The result is a tough, reliable line of slim ESPs that reduce power consumption by at least 25%.

Auxiliary options available in 3.19-in. (81-mm) sizes are multiphase pumps, advanced gas handlers, scale preventers, gas separators, and slotted screen filters.

Contact Novomet today to learn how you can increase production in highly deviated wells with our SlimLine ESPs.