First Sand Cleanout With AccessESP on Live Well

Successful Rigless ESP Replacement in a Highly Deviated Well and Sandy Environment

CASE STUDY

Background

AccessESP was selected by a North American operator to install our through-tubing wireline retrievable system into a challenging well previously supported with a jet pump.

The AccessESP Downhole Wet-Connect setting depth was 8,600 feet at a 80-degree deviation, using proven operational techniques.

Following the installation of the tubing and permanent wet-connect, AccessESP’s retrievable assembly was run through-tubing sequentially, including the AccessESP 130 HP proprietary Permanent Magnet Motor, seals, a 400-series pump, and associated equipment targeting a well production of about 1,000 BLPD.

The well production rate decreased shortly after the well startup. Well monitoring and diagnosis through the surface and downhole sensors provided valuable information, suggesting that the reduced flow rate may be caused by well sanding. This was verified after various unsuccessful recovery techniques, leading to the decision to intervene in the well and perform a full cleanout.

Benefits of Rigless ESP Intervention

- Intervened on a live well in a challenging environment
- Gained well uptime with through-tubing retrieval and replacement of the ESP system
- Performed intervention at a fraction of the cost of a conventional rig workover
- Significantly reduced HSE risks and exposures
The Challenge

A through-tubing slickline intervention attempt to retrieve the pump confirmed a sand accumulation of 2,000 feet above the setting depth.

To reach the through-tubing retrievable system, we needed to remove the sand accumulation and then retrieve the system to continue with the well cleanout, removing any sand accumulation in the lower completion up to and below the producing zone. Intervention had to be performed without killing the well, while fully complying with well barriers policy and maintaining well and reservoir integrity.

The Solution

The well intervention methodology combined the latest advances in coiled tubing and slickline intervention procedures with best practices by AccessESP. The project integration team comprised staff from AccessESP, the oil company, all involved service companies and third parties.

The well cleanout was successfully performed with coiled tubing to the retrievable system. Given the high well deviation, the system was released with coiled tubing and pulled up to a depth within the reach of slickline. Dropping off and leaving the system to be retrieved with slickline significantly reduced surface rig-up heights and HSE risks.

With the retrievable system out of the well, the CT intervention continued the sand cleanout into the lower completion interval. A protection sleeve was installed across the downhole wet-connect to minimize debris settling when reinstalling the system. After completing the well cleanout, we removed the protective sleeve and reinstalled the AccessESP system in the well by following the reverse operating procedure, combining slickline and coiled tubing operations.

The Result

AccessESP and a successful through-tubing operation combining CT and slickline allowed for sand cleanout and the replacement of the Retrievable Pump System in a live well. This saved costs because of the quicker execution time compared to using a rig and the minimized disruption to the oil production.

AccessESP

Slickline Intervention Solutions for the Most Rigorous Challenges

The AccessESP team of expert engineers, quality control and industry specialists is committed to supplying solutions for downhole well environments and interventions. We are ready to innovate to meet the diverse needs of our customers and collaborate with operators to customize our offerings to design the most effective option for their unique challenges.

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