Case study: Bossier, Louisiana

Versa-Drive milling service outperformed competitor, saved customer $100,000

An operator in Louisiana was looking for a reliable, cost-effective option to plug milling in an extended reach well. The total depth was 21,400 ft (6522 m) with a 9,200-ft (2804-m) lateral. A total of 48 plugs were installed in the lateral, consisting of 38 composite frac plugs and 10 dissolvable.

Wanting to compare multiple options, the operator selected the **Versa-Drive™ plug milling service** from Baker Hughes. With a solid history of success, Versa-Drive leverages a full kit of fit-for-purpose tools backed by accurate modeling to reach total depth (TD) in smooth, single-trip runs, reliably and cost effectively.

The proposed bottomhole assembly (BHA) featured the **Navi-Drill™ X-treme™ air drill mud motor** and a reverse clutch mill dressed with **Glyphaloy™ advanced milling technology carbide** cutting structure. The Navi-Drill has rugged, modular, and configurable power sections that deliver superior performance and flow rate. The Glyphaloy carbide was chosen because it has a highly wear resistant cutting surface that enhances cutting efficiency and extends mill life. The rest of the BHA consisted of a dual-flapper back pressure valve, the Hydropull extended reach tool, and a hydraulic disconnect.

The Versa-Drive BHA was deployed in one well while a competitor's service was run on an adjacent well. The Baker Hughes Versa-Drive milled all 48 plugs successfully in a single trip. The flow rate was a sustained 3.5 bpm. The average plug milling time was 3.3 minutes with only four stalls. The entire Versa-Drive operation lasted only 40 hours, two-thirds better than the competitor's 66 hours.

By using the Baker Hughes Versa-Drive plug milling service, the customer saved 26 hours of rig time, approximately $100,000 from reduced days on the well. In addition, the milling operation was conducted with no health, safety, and environmental incidents and zero nonproductive time (NPT).

Challenges

- Mill 48 frac plugs in a 9,200-ft lateral section
- Reduce NPT associated with extended reach plug milling

Results

- Milled 48 plugs in a single run
- Saved 26 hours and a total savings of $100,000