Case study: Middle East

SureVIEW Coil DTS optimized Divert S stimulation treatment, saved $200,000 USD in chemical costs

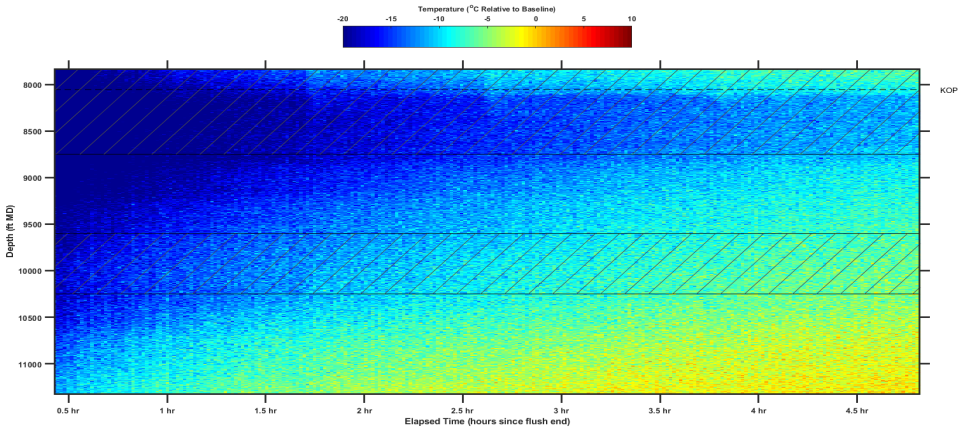
An operator in the Middle East was experiencing declines from one of its oil well producers. They were looking for innovative ways to support reservoir pressure by increasing injectivity rates from a long, openhole water injector well.

Baker Hughes recommended a targeted stimulation using a combination of the **SureVIEW™ Coil distributed temperature sensing service (DTS)** and **Divert™ S acidizing and diverter system**. SureVIEW Coil monitors and optimizes acid stimulation through a coiled-tubing (CT) enabled optical fiber that measures temperature behavior due to fluid flow.

For this operation, a 2.375-in. CT string with a 0.125-in. tube wire, including a triple fiber-optic encapsulated cable, were deployed. Following an initial pass to depth, a baseline temperature survey was obtained. Over 500 bbl of pre-flush solvent was then squeezed into formation to optimize the acid operation and cool the well. A post stimulation distributed DTS survey was then conducted to observe warm-back temperature changes in comparison to baseline results. Baker Hughes specialists subsequently provided qualitative data to identify areas with likely higher and lower production zones that would benefit from acid verses diverter stimulation.

The Divert S acid system has low viscosity in concentrated HCl (>15%), but viscosity increases as the acid spends. This self-diversion feature encourages subsequent acid to alternative, high skin zones—enabling more complete and efficient treatment of formations with varied permeability.

With the information obtained through the use of the SureVIEW Coil system, Baker Hughes personnel were able to update the pre-job stimulation plan to enable 45 percent of the openhole to be treated with Divert S, and the remaining to be treated with 20% HCl. By optimizing the acid solution, the customer was able to reduce total acid volume by more than 30 percent, saving approximately $200,000 USD in chemical costs.



SureVIEW Coil post-stimulation DTS results show warmback temperature changes, aiding in the identification and optimization of acid and diverter placement.

Challenges

- Declining water injectivity in long openhole well
- Remote location with limited access to water

Results

- Optimized stimulation treatment, reducing needed acid volume by more than 30 percent
- Saved approximately $200,000 USD in chemical costs