

Case study: Middle East

SureVIEW TeleCoil logged water cut well in a single run, cut operation time in half, saved four days

An operator in the Middle East was experiencing high water cut and needed to determine exactly where the water was coming from, and how much water was being produced.

An assessment of the well's production capabilities would help to understand the path of hydrocarbons, their flowing pressures, and to determine the types of fluids being produced. Baker Hughes recommended the **SureVIEW™ TeleCoil™ intelligent monitoring and telemetry service.**

The service enhances operations through two single mode fibers for distributed temperature sensing (DTS) and distributed acoustic sensing (DAS) logging in addition to powered bottomhole assembly (BHA) sensor tools. The pump-through sensor BHA permitted recording of gamma, CCL, pressure, and temperature data.

Conventional coiled tubing (CT) logging operations, unlike the SureVIEW TeleCoil service, require multiple passes across the payzone to obtain flowing data, adding to the operating time and reducing CT fatigue life. They also utilize a long BHA that typically requires the injector head to be rigged at a significant height above the wellhead. This extra height requires additional operating hours and the use of a large crane. Further, some conventional CT logging operations utilize either battery packs for the tools, limiting operation time as the power runs out, or a hybrid cable

where both fiber optic and electric connections to the logging tools are needed, also extending rig-up time.

Alternative acoustic systems feature a memory logging tool that obtains data when the BHA is stationary. Data is typically recorded with stops spaced five feet apart, which also negatively impacts operating time.

The SureVIEW TeleCoil service was utilized on this single lateral producer well to record the flow profile across inflow and injection control devices (ICDs) and to capture dynamic flow behavior in real-time across the entire length of the producing zone. The service was conducted all in a single run.

By combining DTS/DAS logging data, TeleCoil sensor data, and advanced data analytics, Baker Hughes was able to obtain the same data it would have obtained from a production logging tool, in half the time. It was also able to provide the customer with logs capturing the entire well in different conditions – shut-in, flowing, and in the transition periods between those conditions.

Satisfied with the service, the operator was able to resume production four days earlier, reduce on location headcount, and save valuable operating expenses.

Challenges

- High water cut
- Logging production and flow profile in one run

Results

- Resumed production four days sooner than with conventional production logging tools
- Captured multiphase flow characterization in a single run
- Reduced headcount on location