

CASE STUDY

MICROGUIDE REVEALS INCORRECT TORTUOSITY SPIKES IN MWD DATA, ALLOWING OPERATOR TO PROPERLY PLACE ESP

▶ TECHNOLOGY

- MicroGuide™ wellbore tortuosity logs

▶ APPLICATION

- Artificial lift
- Production optimization
- ESP placement

▶ LOCATION

- Scurry County, Texas

INDUSTRY CHALLENGE + OBJECTIVE

An operator in Scurry County, Texas had previously experienced multiple ESP failures in a well, which were causing unnecessary downtime and costly equipment damage. Despite having several wells with little or no tortuosity on a previous pad, it was clear that this well would be a challenge from an operating and production standpoint. To ensure that they could understand the problems in the well and stop future ESP failures from happening, the operator decided to run our MicroGuide wellbore tortuosity logs.

TECHNOLOGY + SERVICE SOLUTION

- With only a conventional MWD survey available, we recommended performing a comprehensive MicroGuide logging analysis to provide true insight into tortuosity over the entire depth of the well.
- Taking measurements in 1-ft increments versus stand-length intervals provides a detailed picture of true downhole conditions and issues that might be causing problems with artificial lift equipment.

RESULTS + VALUE DELIVERED

- After obtaining detailed information from the MicroGuide logs, we determined that several spikes in wellbore tortuosity reported by the MWD data in the first 1,000 ft of the well were incorrect. We also noted two other incorrect spikes near 1,500-ft MD.
- Having this data meant that the operator could more effectively plan proper placement of the pump, as they wouldn't wrongly believe that there was a difficult-to-traverse area in the shallowest parts of the well.
- We provided an optimal set depth based on the MicroGuide analysis of 5,600-ft MD. We validated this placement with a 3D visualization verifying that there was tortuosity deeper in the well that would make placing the ESP difficult or impossible.

