CASE STUDY

MICROGUIDE REVEALS MWD ERROR AND SEVERE TORTUOSITY SPIKES, ALLOWING OPTIMIZED PUMP PLACEMENT

TECHNOLOGY

- MicroGuide™ wellbore tortuosity logs

APPLICATION

- Artificial lift
- Production optimization

LOCATION

- Scurry County, Texas

INDUSTRY CHALLENGE + OBJECTIVE

An operator in Scurry County, Texas had drilled a well and was planning to put it on rod lift as the method of production. However, data from the MWD surveys indicated that there was a massive 31° spike in dogleg severity early in the well, causing the operator to pause before placing the pump downhole. To verify the quality of the wellbore and obtain greater insight into true downhole conditions, the operator decided to run our MicroGuide 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

- The MicroGuide logs revealed that the 31° dogleg was in fact an error from the MWD tool, and that there was no tortuosity in the first 4,550 ft of the well.
- The logs also revealed that past the 4,550-ft point, the well was extremely tortuous due to the large build and drops. We recommended caution when traversing the areas of high tortuosity to place the pump, helping ensure the equipment wasn't damaged.
- Based on our analysis, the operator was able to successfully place the pump in a tortuosity-free area in the 2⅜-in. tubing at 6,315 ft. This position was determined as the location where production could be optimized while minimizing equipment wear.