CASE STUDY

# MICROGUIDE REVEALS MAJOR ANOMALY IN WELLBORE AND ENABLES ACCURATE ROD GUIDE PLACEMENT

## TECHNOLOGY

- MicroGuide™ wellbore tortuosity logs

## APPLICATION

- Artificial lift
- Workover reduction
- Precision rod guide placement

## LOCATION

- Canadian, Texas

## INDUSTRY CHALLENGE + OBJECTIVE

A major operator's well with a rod pump artificial lift system went down after just one week. The operator discovered there was excessive damage to the rods, which they had parted at 4,700-ft MD.

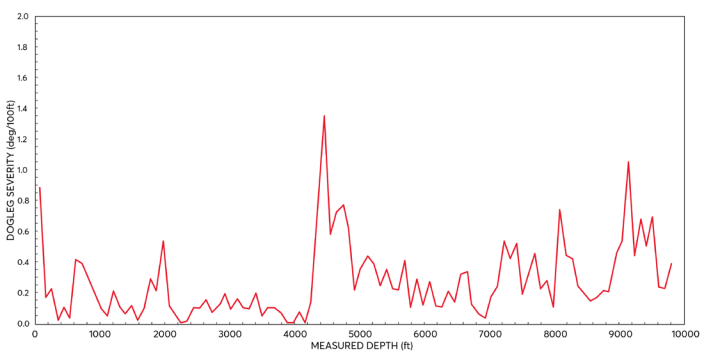
The cause of the damage was unknown, and the drilling surveys hadn't indicated any red flags at the depth originally selected for the rod guide placement.

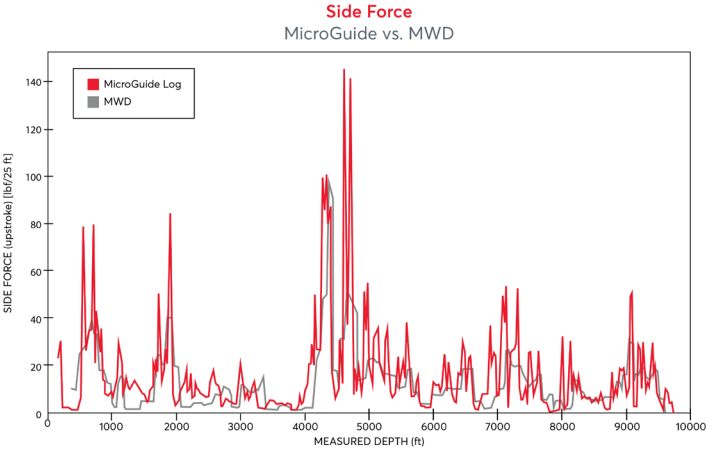
## TECHNOLOGY + SERVICE SOLUTION

- With only a conventional drilling survey at 90-ft intervals available, our MicroGuide system was required to obtain higher accuracy measurements at a higher resolution (1-ft intervals). The MicroGuide solution was utilized to log the inside of the 2⅜-in. tubing to a depth of 10,550 ft, delivering greater insight into tortuosity, maximum available tool OD, and the true microdoglegs of the well.
- The initial dogleg severity (DLS) analysis provided by the MWD equipment stated that the DLS was no more than approximately 1° throughout the section (see leftmost image below). DLS alone, however, does not provide a full picture of everything going on downhole, but MicroGuide also calculated side force. Additional areas of high tortuosity were apparent between 4,640 to 4,690 ft (see rightmost image below), and this high tortuosity was the root cause of the rod pump system's premature failure.

## RESULTS + VALUE DELIVERED

- With the higher density data and obstruction analysis provided by MicroGuide, the customer gained a clearer understanding of the wellbore's profile, enabling them to better position the rod guides. This ultimately maximized production and greatly extended the life of the well—over 2 years to date.
- Significant cost savings were also delivered by avoiding the average three workover operations required a year due to the premature failures and associated lost production.

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