

CASE STUDY

MICROGUIDE ANALYSIS REVEALS SEVERE SIDELOADING FORCES AGAINST THE TUBING THAT WERE CAUSING ROD STRING FAILURE

▶ TECHNOLOGY

- MicroGuide™ wellbore tortuosity logs

▶ APPLICATION

- Artificial lift
- Rod guide placement

▶ LOCATION

- Bakken Shale

INDUSTRY CHALLENGE + OBJECTIVE

An operator in the Bakken Shale was experiencing significant issues with one of their wells, primarily with rod parting and tubing leaks from 2,500 to 5,550 ft. To better understand the potential cause of the problem and determine a solution, the operator decided to run wellbore tortuosity logs and get a clearer view of what was going on downhole.

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, with focus on the identified problem area.
- 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 our MicroGuide logs, the operator obtained data that was previously entirely missing from the surveys between 0 and approximately 2,700 ft.
- The MicroGuide logs revealed that there was significant sideforce against the tubing from 2,500 to 5,550 ft, indicating that the root cause of failure was severe tortuosity.
- Understanding the issue and true wellbore conditions allowed the operator to develop a plan to address the problem and prevent its occurrence in future well design.

