

CASE STUDY

MICROGUIDE LOGGING IDENTIFIES ISSUES WITH PREVIOUS SURVEY AND DISCOUNTS TORTUOSITY AS THE CAUSE OF PREMATURE PUMP FAILURES

▶ TECHNOLOGY

- MicroGuide™ wellbore tortuosity logs

▶ APPLICATION

- Identifying cause of ESP failures
- ESP placement

▶ LOCATION

- Netherlands (Land)

INDUSTRY CHALLENGE + OBJECTIVE

A Geothermal operator in the Netherlands had encountered several cases of premature ESP failure. It was suggested by the ESP provider that the original MWD survey may not have identified areas of high or 'micro' doglegs that could be responsible for (or contributed to) these failures. A competitor gyro system was run on wireline to produce a high-resolution survey to assess these.

This survey identified apparent areas of high dogleg. Pumps were repositioned in more optimized areas, only for the failures to continue. It was therefore suggested that this gyro survey may not be accurate, and Gyrodata were called out to produce a tortuosity log using MGL.

TECHNOLOGY + SERVICE SOLUTION

- 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-m. 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 Gyrodata survey compared favorably with original MWD survey, confirming the MWD was accurate / reliable
- Gyrodata log revealed it was the previous gyro inrun survey that was inaccurate / unreliable, (with large discrepancies between its inrun and outrun, the outrun survey was rejected/discarded)
- Gyrodata results indicated very low tortuosity and allowed more optimal, deeper setting of the ESP
- The operator was able to demonstrate to the ESP provider that the wellbore quality was not causing the premature failures (as had been implied)

