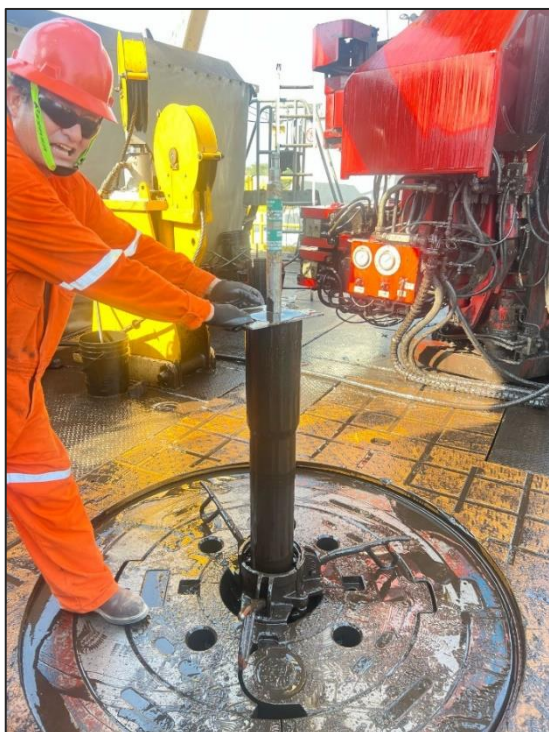


CASE STUDY



MINS® ULTRA SLIM DROP GYRO SUCCESSFUL RUN IN A DEEP HP-HT WELL

ONSHORE MEXICO



WELL DETAILS:

Depth = 5,325 m / 17,740 ft

Max. Temperature = 165 °C / 330 °F

Max. Inclination = 17 deg

“S” type directional well

CHALLENGES:

Operator needed to run a **drop gyro** tool inside the 8½” BHA for surveying a HT well after reaching TD. Drilling the final section of the well was very challenging due to lost circulation issues and high stuck pipe risk.

VES TECHNOLOGY USED:

MINS® drop gyro. The only ultra slim, solid state high accuracy tool capable of surveying HT wells with diameter restrictions as low as 1.9”

SOLUTION SUMMARY:

VES INTERNATIONAL proposed to run our **MINS®** solid state drop gyro tool for this very challenging job. After free fall drop of the gyro tool to bottom, the operator experienced lost circulation problems and suspended the trip out of hole, leaving the gyro tool stationary on bottom with no circulation for around 28 hours, being exposed at downhole temperatures higher than 160 °C. After the lost circulation problems were solved, the trip out with the BHA was resumed. Our **MINS®** drop gyro was recovered on surface after 64 hours, and the survey was successfully delivered with all QA-QC checks passed. Neither the gyro sensor nor the electronics were damaged with the HT exposure, **saving our customer more than USD 200 K while delivering the highest quality gyro survey of the wellbore.**

