CASE STUDY

GYROGUIDE ALLOWS OPERATOR TO SUCCESSFULLY SET AND ORIENT WHIPSTOCKS IN TWO BAKKEN WELLS

TECHNOLOGY

- GyroGuide™ gyro surveying system

APPLICATION

- Whipstock orientation
- Live wireline gyro toolface steering

LOCATION

- Bakken Shale

INDUSTRY CHALLENGE + OBJECTIVE

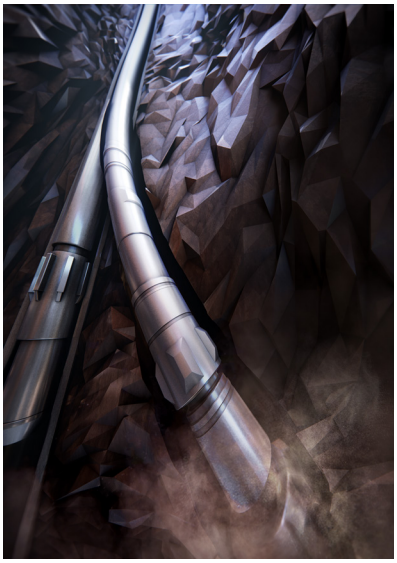
An operator in the Bakken Shale needed to generate a new lateral section for one of its saltwater dispoal wells to maximize efficiency on their existing investment. This included reentering the cased hole and providing a gyro survey and casing collar locator (CCL) prior to orienting the face of the whipstock to the desired azimuth. Additionally, being in a vertical, cased-hole wellbore, the operator needed to be guided out of the casing and away from magnetic interference before the MWD tool could be used while drilling the remainder of the curve and lateral.

TECHNOLOGY + SERVICE SOLUTION

- The GyroGuide gyro surveying system is capable of running up to 250 ft/min from vertical to horizontal, generating two independent wellbore surveys that are cross examined to give a final high quality wellbore survey.
- The system is routinely equipped with a CCL to depth correct and provide the operator confidence that they won't mill the whipstock on a casing collar.
- Rigorous quality control checks are completed to ensure that the whipstock is correctly oriented. This includes pre- and post-run highside checks, sign-off of UBHO/whiptock alignment checks, and seating confirmation checks.
- Live wireline gyro toolface steering technology provides the driller on the rig floor with live toolface data and constant communication with the gyro engineer while steering is being conducted, ensuring the accuracy of the data being received at surface.
- Our sidedoor sub was also provided for ease of keeping wireline contained and properly packed off while the pumps were operating and drilling was being conducted.

RESULTS + VALUE DELIVERED

- The GyroGuide system delivered a successful vertical wellbore continuous gyro survey to match the requirments of the North Dakota Industrial Commission, as well as collected a CCL to ensure depth correlation and avoid setting the whipstock on a casing collar.
- The GyroGuide system's quality control procedures, along with our industry-leading gyro calibrations, ensured that the whipstock was oriented in the desired direction.
- GyroGuide's live gyro toolface steering technology successfully steered the directional assembly from the face of the whipstock window to approximately 45 ft into the open hole, ending within 6° of the desired azimuth. The MWD tool was then far enough away from the casing to receive clean survey and toolface data.



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