

VectorZIEL Rotary Steerable System



VectorZIEL RSS drills entire curve, demonstrating build rate and tight directional control

Technology

NOV’s VectorZIEL™ 600 rotary steerable system (RSS) features inclination azimuth and gamma ray capabilities within 5 ft of the bit along with an integrated pulser. The VectorZIEL™ 600 RSS is available to independent directional drillers and operators around the world.

Challenge

The build-and-turn horizontal well with planned dogleg severity of up to 7°/100 ft was drilled at NOV’s R&D Technology Center in Navasota, Texas, which is a full-scale drill rig that replicates today’s demanding drilling conditions.

Results

The VectorZIEL 600 RSS successfully drilled the curve from 11° to 86° inclination, despite relatively soft drilling conditions in the clay stones and unconsolidated sand stones at the end of the curve. The VectorZIEL 600 RSS demonstrated exceptional build-rate capability. The RSS can achieve higher ROP and deliver smoother boreholes while providing precise directional control, helping to reduce torque and drag as well as stuck-pipe risk.



Section	Agressivity Setting	Averaging DLS (Deg/100 ft)	Formation	Distance Drilled (ft)
Build	100%	8.9	Clay Stone	283
Build	70%	7.1	Clay Stone	167
Build/Turn	60%	6.1	Clay Stone	221
Build/Turn	30%	5.1	Clay Stone	99
Build	100%	7.0	Sand Stone	558