

SelectShift Technology: Proven Performance

7½-in. Vector Series 50 SelectShift downhole adjustable motor successfully reaches TD while improving bit dull condition

Challenge:

Drill the entire 8¾-in. vertical / tangent section to KOP while effectively holding inclination and improving bit life. The vertical / tangent consisted of challenging sandstones, siltstones, and limestones. The previous well was pulled before KOP and the bit was damaged beyond repair.

Solution:

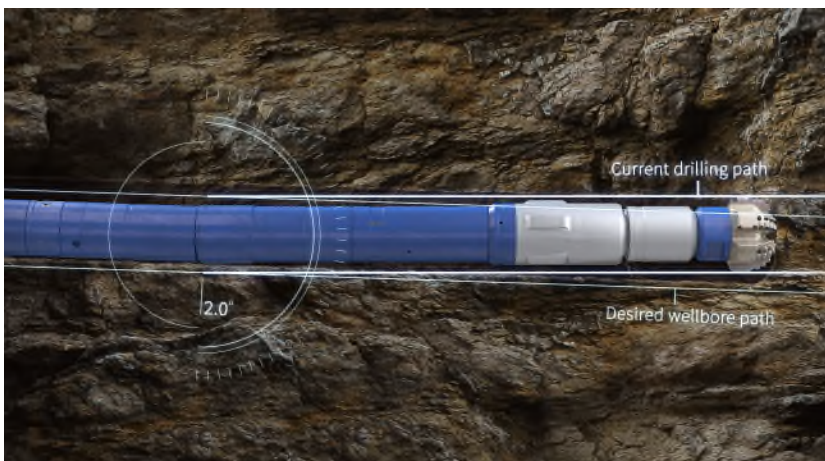
The Vector™ Series 50 SelectShift™ downhole adjustable motor, configured with an 8½-in. stabilizer and 7-in. 7/8, 5.7 stage ERT™ power section, was used to drill the vertical / tangent section KOP in one run. The SelectShift downhole adjustable motor was used with a 7 blade 19 mm cutter PDC drill bit and configured to alternate between 1.83° and 0.00° bend settings.

The SelectShift successfully reached KOP in one run, drilling 2,719 ft with the tool in the 0.00° setting. Hole inclination was easier to hold with the tool in the straight mode, effectively reducing the number of slides. The bit was deemed repairable and was a significant improvement in dull condition over the first run. The SelectShift was able to provide maximum drilling efficiency and an improved bit dull condition.

The offset well used a SelectShift with the same configuration and bit, which drilled 1,587 ft with the tool in the 0.00° setting. The drilled intervals on both the subject and offset wells ranged between 6,200 ft and 6,400 ft.

Results:

- SelectShift motor reached KOP without having to trip
- 71% Increase in footage drilled in 0.00° resulted in an improve bit dull condition
- 57% Decrease in the number of slides performed
- Significantly improved bit dull condition; bit dull graded at 1-3 for subject well (pulled for KOP) vs 1-5 for offset well (pulled for PR)



Client:	Confidential
Well Name:	Confidential
Lithology:	Sandstone, siltstone, limestone
Basin:	Permian
State:	Texas
Country:	USA
Date:	Q1 2019



700ERTcr7857 Power Section Specifications

Flow Range	300-750 GPM
Rev per Unit Volume	0.23 Rev/Gal
Speed Range	69-172 RPM
No Load Pressure Loss	253 psi
	POB
Max Rec Pressure	1,580 psi
Torque @ Max Pressure	17,950 ft-lbs
Stall Pressure	2,890 psi
Stall Torque	32,850 ft-lbs