**Navi-Drill Ultra Curve Motor Saved Average of 3 Days Per Well**

Location: McMullen County, Texas

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### Results
- Saved average of 3 days drilling time per well
- Drilled vertical, curve, and lateral sections in one run
- Increased ROP in curve section by 48%
- Increased ROP in lateral section by 15%

### Challenges
- Development project in Eagle Ford basin, McMullen County, Texas
- Reduce 15-day drilling time experienced on offset wells
- Efficiently drill horizontal section and stay in zone
- Reduce operational costs by drilling the curve and lateral faster and more efficiently

### Baker Hughes solution
- Deployed 6¾-in Navi-Drill Ultra Curve short bit-to-bend motor

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An operator working in the Eagle Ford basin wanted to see an improvement in drilling efficiency over what was currently being experienced in comparable wells. Previous wells drilled in the averaged 15 drilling days, from spud to total depth (TD). In addition, the rate of penetration (ROP) in the curve section was severely impacted by additional sliding time and the need to trip out of hole to change motor assemblies.

The operator’s challenge was to drill the 8½-in. hole section, which consisted of vertical, curve (planned with 8°/100 ft buildup rate [BUR]), and lateral sections averaging in total 9,200 ft per well. A performance improvement was desired in order to reduce the average drilling time and achieve a consistent BUR in the curve section.

Baker Hughes deployed its new 6¾-in. Navi-Drill™ Ultra™ Curve motor with a 4½-ft bit-to-bend length. The Navi-Drill Ultra Curve motor is able to maintain a constant tool face while drilling the curve, resulting in more consistent BURs and improved ROP while sliding.

The Ultra Curve motor was able to drill the vertical, curve, and lateral sections in a single run, eliminating the need to trip out of hole at the kickoff point for a new curve assembly. By eliminating the trip, the operator was able to save an average of 3 days per well.

The short bit-to-bend length of the Navi-Drill Ultra Curve motor increased ROP in the curve section by 48% due to a reduction in sliding time. ROP in the lateral section was increased by 15% due to higher rotational limits.

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Days vs. depth plot compares 8 ½-in. sections drilled with the Navi-Drill Ultra Curve motor to offset wells