# MPD-Ready® Integrated Dual Choke System improves Well Bore quality, significantly reduces drilling times

An operator in West Texas chose the MPD-Ready® Dual Choke system to prevent possible flow from a fracture job a half mile to the east. The system delivers efficiencies on many fronts and the operator was able to mitigate various wellbore conditions which resulted in a three-day drilling time improvement over neighboring wells. Here is how the advantages stacked up.

The proprietary technology helped restrict surge and swab, allowed for lower mud weight and prevented possible influx from the Wolfcamp X or A formations. Nabors' engineers ran hydraulics and delivered a solution featuring varying Surface Back Pressure (SBP). The SBP schedule maintained equivalent mud weight at well bottom and adjusted for influx mitigation while preserving wellbore stability. Specifically the operator stabilized equivalent mud weight at well bottom which promoted a Rate of Penetration (ROP) increase of up to 15%. Stripping operations were also performed successfully with variable SBP.

**After implementing the system, the operator drilled the 7-7/8" curve & lateral section with 20% reduced drilling time and ROP increased 13% and sliding ROP increased 15%.**

## Challenges faced

- Uncertain drilling window: with possible influx zones
- Well Control scenarios during drilling and cementing
- Stuck pipe events

## Solution deployed

- Utilize the MPD-Ready Integrated Dual Choke System for performing dynamic Formation Integrity Test to determine drilling window boundaries
- Maintaining Constant Bottom Hole Pressure (CBHP) with engineered SBP within the drilling window to eliminate stuck pipe events, downhole problems and loss/gain scenarios

## Results obtained

- ✓ No QHSE incidents
- ✓ Zero downtime / NPT
- ✓ Saved average 3 days drilling time across 3 wells
- ✓ Reduced fluid losses to nearly zero
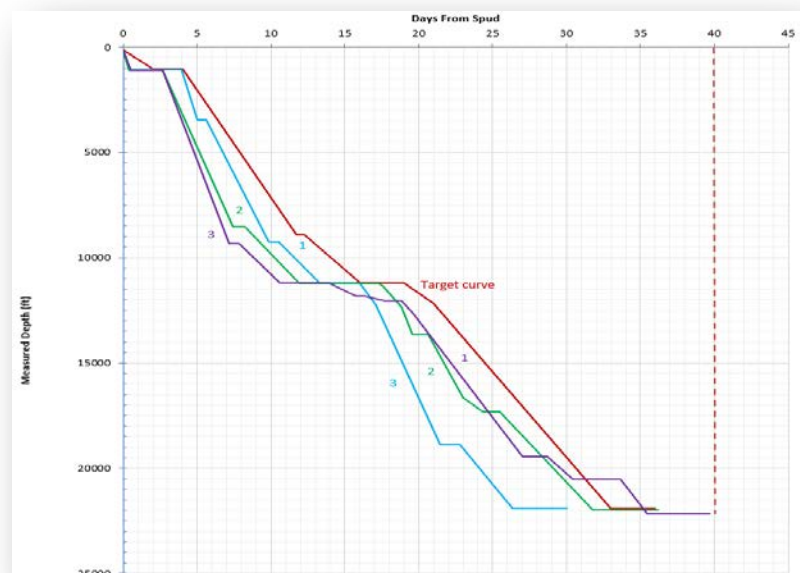- ✓ Eliminated surge and swab effects, maintaining CBHP



Figure 1. Target days vs. Depth curves in order (3 wells) drilled with MPD-Ready