



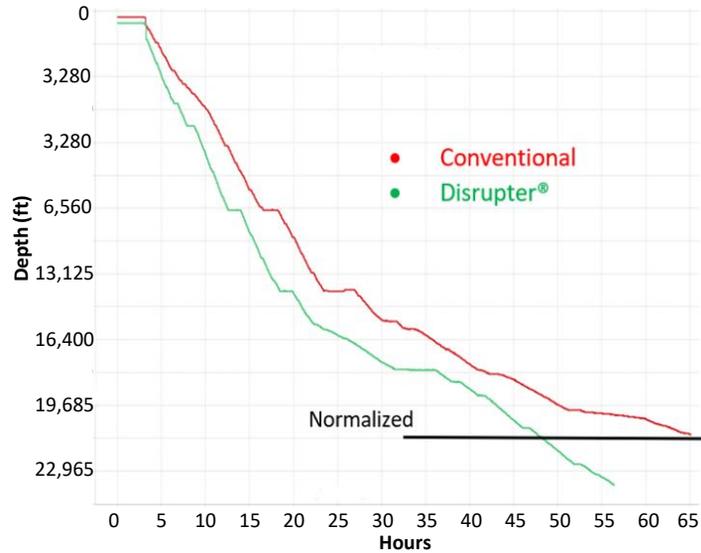
Rotated Casing Case Study

Disrupter® centralizers vs. Conventional centralizers



Maximized Efficiency implementing the Disrupter®

- Both wells were run 1/jt from KOP – TD
- Circulated and rotated on both runs past 15,750'
- High torque/slim joint casing and stop collars used
- Disrupters® increased run speed by **42%**
- Disrupters® increased available HKLD at TD by **26%**
- Disrupters® run saved **17 hours** (normalized)
- Same pad, same rig



Wellbore comparisons normalized @ 21,161'

Well	TD (ft)	Lateral Length (ft)	Tortuosity	HRS	Run Speed (ft/hr)
Conventional	21,160	9,734	259.3	65.1	360.9
Disrupter®	21,160	9,885	279.5	47.7	514.2

Wellbore comparisons to final TD

Well	TD (ft)	Lateral Length (ft)	Tortuosity	HRS	Run Speed (ft/hr)
Conventional	21,160	9,734	259.3	65.1	360.9
Disrupter®	24,304	12,940	319.6	56.5	487.3

