



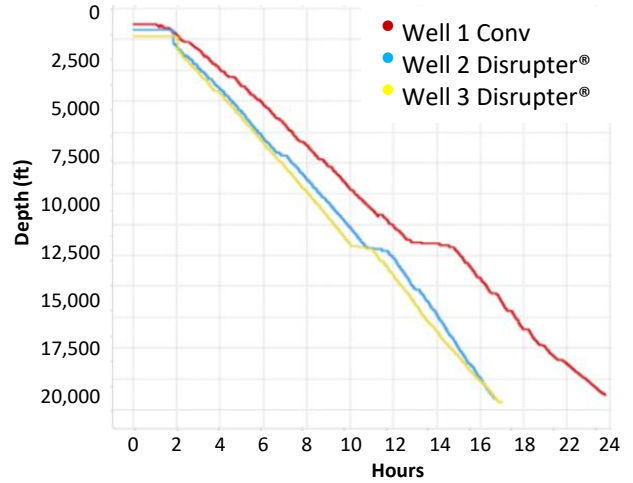
Mud Filled Case Study

Disrupter® centralizers vs. Conventional centralizers

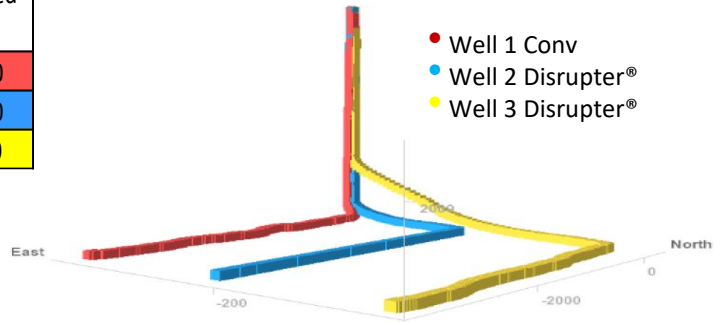


Maximized Efficiency implementing the Disrupter®

- All three wells were run 1/jt from KOP – TD
- Disrupters® increased run speed by **22%**
- Disrupters® increased available HKLD at TD by **57%**
- Disrupters® reduced FF in open hole by **30%**
- Disrupters® reduced FF in cased hole by **40%**
- All liner runs were mud filled, without rotation
- Same pad, same rig
- Wells 2 & 3 had greater step outs at the heel



Well #	TD (ft)	Lateral Length (ft)	HRS	Run Speed (ft/hr)
1 Conventional	20,558	11,335	21.84	1,112.0
2 Disrupter®	20,827	11,634	16.74	1,443.0
3 Disrupter®	20,945	11,148	17.02	1,338.0



Reached TD with 57% more available HKLD and 35% less Friction than conventional centralizers

