

## Drilling Technology (Directional)

As leading service provider for directional drilling at China, ANTON Directional Drilling is supported by self-owned high-end resources and shared global advantageous resources, especially on safe operation at HTHP Well + Complex Well and Fast Drilling covering consulting, personnel services, equipment services on site, which are committed to provide clients with complete set of integrated directional drilling and downhole drilling assembly services.

### Service Scope:

**DD Design & Consulting:** Horizontal Well, Multi-lateral Well, Windowing & Sidetracking, ERD, Remote Support Drilling.

**MWD & LWD & Geo-steering:** MWD, LWD, RSS, Geo-steering.

**Integrated Downhole Tools Service:** Vertical Drilling, Drilling Bits, PDM, Turbine Drilling, Agitator, Rotary & Torsional, Jar

### Equipment Resources:

Self-owned 80 sets of high-end equipment, including MWD, EMWD, LWD and RSS, etc.

Description	Measurement Accuracy	Maximum HT/HP	Maximum Dogleg
Conventional MWD	Inc. $\pm 0.1^\circ$ / Azi. $\pm 1^\circ$	150°C / 20kpsi	Sliding 15°/30m
HT MWD	Inc. $\pm 0.1^\circ$ / Azi. $\pm 0.5^\circ$	175°C / 25kpsi	Sliding 15°/30m
HT LWD	Resistivity 0.1-3000 $\Omega$	175°C / 25kpsi	Sliding 9°/30m
RSS	Inc. $\pm 0.1^\circ$ / Azi. $\pm 0.5^\circ$	175°C / 20kpsi	Sliding 6.5°/30m

### Service Capability and Performance:

- Cover all major oil markets around the world, including China, Central Asia, Middle East, Africa, Europe and South America, etc.;
- Comprehensive ROP improvement services for more than 2000 wells, including vertical well, DD well, horizontal well;
- Mature global operation support and resources allocation ability for simultaneous work by 35 DD teams; and
- Distributed equipment maintenance and management system on the basis of equipment services.

### Job Records Completed at China:

- Deepest vertical well onshore – Tarim LT-1 well (MD: 8,882m)
- Ultra-long horizontal section (3,070m) of shale gas horizontal well with deepest MD of CNPC – Ning21-5 Well (MD: 5,750m)
- Deepest horizontal well onshore – ZG13-3H Well (MD: 7,849m, TVD: 6527.43m)
- Largest displacement well onshore – NP13-1706 Well (MD: 6,387m, Horizontal Displacement: 4940.99m)

