

# ROTARY STEERING AND GEO-STEERING DRILLING TECHNOLOGY

Rotary steering and geo-steering drilling system can effectively improve WOB performance, and is the perfect combination of rotary drilling and trajectory control with high quality borehole. It is currently the most advanced directional drilling technology. Combination of fast drilling and measuring tools, the ability to timely adjust its position to ensure a perfect trajectory control and pay-zone drilling rate, are all necessary technical means to realize the development of long horizontal section, thin oil layer and shale gas well drilling. ANTON is the very first oil service company to have its own rotary steering and geo-steering drilling system, and to provide such services in China.

## Technology Features:

- Continuous steering with string rotation, improve hole quality;
- Higher ROP, drilling time saving;
- Real time formation measurement, increase the drilling rate;
- Customized modular design, adding LWD measurements as required.



## Service Scope:

- Applicable to all types of oil and gas reservoirs, various sizes of the hole, all kinds of mud systems;
- Suitable for challenging horizontal well: low ROP formation, formation with high borehole quality control requirement, and extended reach horizontal well;
- Suitable for high drilling rate horizontal well: thin layer, tight oil/gas reservoir, and shale gas.

## Service Performance:

- CNPC and SINOPEC in fields of Songliao basin, Bohai bay, Sichuan and Tarim basin; AMG in Kazakhstan for Caspian Basin.
- Well type: directional well, long horizontal well, shale gas well, tight oil/gas well, thin layer well
- Completed the construction of over 800 wells with the following records:
  - ◆ Horizontal displacement of 4940.99 meters, maximum displacement in China land market;
  - ◆ Deepest operating depth: 7729.8 meters;
  - ◆ Maximum daily footage of 365 meters in horizontal section in China;
  - ◆ Over 10 wells drilling with 0.9m thin oil layer, with 90%+ reservoir/sand coverage, in heterogeneous formation of the Putaohua, Songliao basin.

